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## ORIGINAL ESSAYS AND CASES.

ART. I.—*Practical Remarks on Cramp of the Stomach from Tartar Emetic.* By DANIEL DRAKE, M. D.

Tartar Emetic (*Tartras Antimonii et potassæ*) when taken to excess, and in certain constitutions when used in the ordinary dose as a vomit, is well known, occasionally, to cause a formidable disease, called CRAMP OF THE STOMACH. I propose to offer a few remarks on the nature of this affection; the prevention and cure of which are not in general understood by the people at large, nor, indeed, by many of the younger members of the profession. The old physician, who may find in what I shall say, nothing with which he is not already familiar,—will, I hope, tolerate without impatience, the appropriation of a few pages, to the exclusive benefit of his more inexperienced brethren.

Few articles of the materia medica are capable of producing a greater variety of effects, than the one now under consideration. It is not my design to inquire into them generally. I shall confine myself to such as arise when the medicine is taken in excess, either by design or accident.

I. OF THE SYMPTOMS.—Received upon the mucous membrane of the stomach, Tartar Emet. promptly excites an irritation, *sui generis*, and a sensation equally *peculiar*. They

are affections of the sensient extremities of the digestive portion of the pneumogastric nerves; and constitute the only effects that depend immediately on the local application of the medicine. They imply a disturbed state of the specific function of the stomach. Very soon the brain is found to be scathed through the medium of the nerves whose extremities have been poisoned; and the various organs, both nutritive and animal, which it sustains and governs, perform their offices imperfectly. The heart, from its association with the stomach, its dependence on the brain, or the direct application of the poison absorbed, experiences a signal reduction of power, and its feeble contractions become extremely frequent. The blood is no longer distributed equally throughout the system; and consequently all the functions are changed in their condition. The organs of sense become obtuse, and the muscles of locomotion languid; the heat of the surface is depressed; and the perspiration is increased in some parts, while it is diminished in others. But it is especially in the different portions of the digestive apparatus, that we find the most striking effects. The trifacial and glossopharyngeal nerves, which preside over mastication and deglutition, are early and deeply affected. And hence we are presented with altered and unpleasant sensations in the mouth and throat, and with increased salivary and mucaginous secretions. The mucular tunics of the stomach, œsophagus and pharynx, have their peristaltic function disturbed and inverted; the muscles of respiration, which are those of vomiting, become spasmodically affected, and at length puking takes place.

If the patient have no idiosyncracy in regard to emetic medicines, or the dose taken has not been *too* large, the symptoms thus briefly enumerated, soon pass off; and the various organs resume their functions with increased energy, and livelier sensibilities. But we occasionally meet with persons in whom, from one or both of these causes, the perverted sensibilities and reduced powers of the system, at large; the mucous irritation of the stomach; its muscular contractions; and the sympathetic spasms of the muscles of respiration, and

even of locomotion,—all become excessive, either in degree or duration. In this state of things it frequently happens, that the epigastrium is rendered extremely tender to the touch; and the gastric contractions are attended with a pain, which is sometimes excruciating. The stomach is then said to be *cramped;* and the patient is in manifest and immediate danger.

Inordinate vomiting is not, however, always necessary to the production of cramp of the stomach; for every physician of experience must have met with cases, in which it has occurred at an early stage of the operation, and sometimes when no puking had yet taken place.

The disease thus induced, may either cease spontaneously; or be promptly cured, by a resort to the proper remedies. But it sometimes proves fatal in a short time, in spite of all that is done; and if it should not terminate in recovery or death, within a few hours, irritation is converted into inflammation, and a true *Gastritis* supervenes. The fever which is then developed, is attended with a concentrated and frequent pulse, incessant vomiting, unquenchable thirst, and extreme prostration of the powers of life. It is, of course, imminently dangerous: and if not combatted, with skill and energy, the patient inevitably dies.

II. Of the causes which contribute to the dangerous effects of Tartar Emetic; and the means of preventing them.

1. Taking the medicine in excessive quantities. This is the great error of the people of the West; and our physicians, sometimes, commit it. Four or six grains are often given at once. The patient thus treated is liable to suffer. More than that quantity may, it is true, be necessary; but, except in cases of emergency, it should always be administered in divided doses; and these should not follow each other too quickly. Time is necessary to bring about the *constitutional* effect of this, as well as every other medicine; and until the system at large is affected, puking will not take place. Safe and salutary vomiting, moreover, depends on a *certain* degree

of irritation in the stomach, and that degree, if possible, should not be exceeded. It is the abuse of this medicine which has given it a bad name; and created a prejudice against its use, which physicians sometimes can not conquer.

2. Swallowing the medicine in too concentrated a solution. It then acts upon a small part of the stomach only, and excites in it a violent irritation. Two grains, if dissolved in a pint of warm water, will operate as effectually as four grains dissolved in half an ounce. In this respect it conforms to a general law. When we are desirous of obtaining the *specific* effects of soluble medicines, we should administer them much diluted. A drachm of calomel given at once, will perhaps excite in the mouth deep and dangerous sloughing ulcers, with diminished secretion; but administered in the course of a week, a salutary flow of saliva will be the chief effect.—Great doses of the carbonate of iron, irritate the digestive organs, and seldom do much good; but, dissolved in waters impregnated with carbonic acid, as in our chalybeate springs, the same medicine, in a twentieth part of the quantity, allays morbid irritability, and restores the lost excitement of the system, in a remarkable manner. Again: An ounce of Epsom salts (*sulphate of magnesia*) dissolved in two ounces of water, will not produce more, nor indeed as *beneficial* an, effect, as two drachms in the state of dilute solution, in which it is found in the numerous Epsom springs of Kentucky.

3. Drinking cold water, during or immediately after the operation. This should never be permitted. It has sometimes been done with impunity; but there is always danger of its disturbing the regular effects of the medicine, and producing spasms. The experience of drunkards, who boast of "working off" their vomits with spirit and water, should go for nothing. They vomit easily, for they are accustomed to that operation. Their stomachs require stimulation, and the *whiskey* of their *grog* tends to correct the effects of the cold water of that vulgar and destructive compound. It would be better still for them, when using this mixture, to take it warm or hot. It is not only proper for *all* who take emetics

to refrain from cold water; but those who apprehend cramp should drink copiously of warm: and this should be done, not when the patient is about to experience a fit of vomiting, but immediately afterwards, that the soothing draught may remain long enough in the stomach to exert its effects. To those who are much debilitated, or exceedingly irritable, an infusion of some bitter or slightly aromatic plant should be given, instead of simple water. But, where the habit is inflammatory, the latter is preferable.

4. Exposure to a cold and damp atmosphere. To the safe and comfortable operation of an emetic, it is in some degree necessary, that the skin should be in a healthy state. We have already seen, that an emetic disturbs the functions of the skin, and reduces its temperature. This especially happens to the lower extremities; and no one should enter on the use of an emetic without taking measures to raise and equallize his temperature, if it be unhealthy. For this purpose nothing is so efficient as immersing the feet and legs in warm water; and even when their heat is not defective, such immersion will tend to prevent spasms.

5. When the habit of the patient is full, and especially if there be irritation with a tendency to inflammation in the stomach, tartar emetic, in vomiting doses, can scarcely fail to awaken formidable symptoms. In this state of things, a copious blood-letting will prepare the patient for free and effectual vomiting, and should never be omitted.

6. In constitutions of feeble stamina with excessive sensibility, large portions of tartar emetic are extremely apt to excite spasms. But such persons often require vomits; and it is desirable to know how they may be administered, so as to do no mischief. This, I believe, is always practicable. A large dose of opium, given ten or twelve hours before the emetic, will, in general, so blunt the sensibilities and contractilities of the system, as to prevent cramp of the stomach, or the extremities; while it rather predisposes to, than prevents, full vomiting. To persons of this temperament my preceptor, the late Dr. Goforth, was accustomed to adminis-

ter with his emetic medicine, a quantity of valerian root (*Valeriana officinalis*) in fine powder; and believed, that it contributed to easy vomiting. I have frequently done the same thing, and thought it useful.

7. When the patient labours under constipation, and has reason to apprehend spasms from the impress of the tartar emetic, the union of that medicine with sulphate of magnesia, or sulphate of soda, will in most cases be a sufficient guaranty; for as soon as the action of the medicine is directed upon the bowels, the irritation in the stomach, and the consequent cramp, will in general abate.

8. Lastly, some persons can not be vomited. These are few in number; but many do not vomit without great difficulty. Patients of this idiosyncrasy, are liable to be much distressed by tartar emetic; and are sometimes greatly injured by the unwarrantable doses they are compelled to swallow. It should be recollected, that although the muscles, internal and external, concerned in vomiting, refuse to act from the irritation of the medicine, that irritation may, at length, rise to a dangerous height; and, that the vomiting is by no means an accurate measure of the irritation which excites it. Blood-letting, opium, the warm bath, and a slow administration of the medicine, are the means most likely to correct this peculiarity, and give to the emetic its proper effect.

III. Of the treatment of the first stage of Cramp in the Stomach.—This stage presents us with the phenomena of a dangerous spasmodic disease, involving the muscular functions of both organic and animal life, and connected with general exhaustion of the vital powers. It is to be treated with anti-spasmodics and stimulants, internal and external.

1. Hot spirit and water, taken liberally, is attended with excellent effects; and, happily, is in general within our reach.

2. Laudanum is still more valuable; and should be administered in doses of 50 or 60 drops, at short intervals, until the disease abates. As a vehicle for the laudanum, nothing is preferable to the spiritus Mindereri (*sol. acet. ammon.*) or the neutral

mixture of carbonate of potash and vinegar, taken warm. Opium and calomel united, do good. They should be given in powder, that they may spread over the mucous membrane of the stomach, and sink into its folds. One or two grains of the former, with ten of the latter, are a proper dose.

3. The volatile oils of mint, cinnamon, and pepper-mint, the tincture of lavender, ammoniated alcohol, and sulphuric ether, are all serviceable; though by no means equal to opium and its preparations.

4. Cathartic enemas are indispensable when constipation attends; but if diarrhœa be present, demulcent injections with laudanum should be considered as best adapted to the case.

5. Externally, the general warm bath should be employed, if convenient; otherwise, the feet and legs ought to be immersed in hot water, and hot fomentations made to the epigastrium, the *punctum saliens* of all the morbid actions. Hot and pungent sinapisms, or a piece of flannel moistened with the oil of turpentine, and applied to the same part, are still more powerful, and in desperate cases should never be omitted.

6. Lastly, if a large quantity of the medicine have been swallowed, and cramp with little or no evacuation has taken place, astringent vegetable infusions, as recommended by M. Berthollet, should be freely administered to decompose the poison. Hyson tea, Peruvian bark, oak bark, or the nutgall—whatever, indeed, contains the tanno-gallic acid—is adapted to this important object. At the same time the throat should be titillated, so as to excite vomiting, and rid the stomach of the offending material.

IV. Of the treatment proper in the second or Gastritic stage.—The foregoing remedies will in general succeed: when they do not, the patient either dies from the impress of the medicine upon his nervous system, or gastritis supervenes. Many physicians, not aware of the facility with which inflammation succeeds to irritation, continue the stimulating treatment after the former condition has arisen, and do

irreparable mischief. If I have not been misinformed, more than one person, in the neighborhood of this city, has lost his life by this kind of ignorance. I was once, myself, indeed nearly the victim of a similar error. In the first year of my practice, having occasion, from a slight indisposition, to take an emetic, I chose, for the purpose of testing its virtues, the inner bark of the trunk of the White flowering locust, (*Robinia pseudacacia*,) to which emetic properties had been ascribed. It operated kindly and efficiently; but, desirous of ascertaining whether draughts of cold water while under the operation of an emetic would really do harm, I resorted to that beverage with considerable freedom. After the vomiting had ceased, an epigastric soreness remained, and within a few hours I became conscious of painful contractions of the stomach, which recurring in short paroxysms, at length acquired an alarming violence. I first had recourse to anti-spasmodics, and subsequently to a blister over the epigastrium; but all to no effect. I then drew from my arm sixteen ounces of sizy blood, immediately after which recovery took place.

The remedies for the Gastritis from tartar emetic are:

1. Blood-letting. It should be first from the arm, and secondly from the pit of the stomach; by leeches, if they can be had, or by cupping, if the parts be not too tender to bear that operation.

2. Total abstinence from solid food and all stimulating drinks and medicines; nothing being allowed but mild and demulcent beverages, and those in small quantities.

3. Cathartic enemas.

4. Calomel in scruple, or half scruple doses, every four or six hours; with opium, if much gastrodynia be present.

5. Finally, a large blister to the pit of the stomach, and others to the ankles, if the circulation of the extremities should be languid, and their temperature reduced.

By a timely resort to these measures, the second or inflammatory stage of gastric cramp may always be cured; while treated on the stimulating plan, so well adapted to the first or spasmodic stage, it would as constantly prove fatal.

*Cincinnati, September*, 1827.

ART. II.—*Thoughts on Modern Travelling; designed for valetudinarians.* By DANIEL DRAKE, M. D.

Most things in nature and art have, at one time or other, been pressed into the service of the practical physician. Among the therapeutic agents not to be found bottled up and labelled on our shelves, is *Travelling;* a means of prevention, of cure, and of restoration, which has been famous in all ages. Thousands have felt and borne witness, to its cheering moral influence and invigorating physical effects. It is not my design to impugn their reports; nor to bear unqualified testimony against such a 'cloud of witnesses.' But having some pretensions to the character of a valetudinarian, and being recently under the necessity of making a journey of two thousand five hundred miles, I feel not altogether unprepared to speak of travelling, as it is of late performed in this country; and am compelled to say, that on the whole, as a means either of prevention or cure, its claims are of a most doubtful character. That some persons derive from it important advantages to health and constitution, I am well aware; but that to the majority it brings fatigue and disorder, with an instinctive and impressible desire for repose, I am equally convinced. Indeed, to travel over the United States in the present fashionable mode, requires the possession of that vigour of body and firm resolution of mind, for the attainment of which, journeys are advised and undertaken.

Our forefathers journeyed on horseback, or in vehicles without springs, over rough roads, which required them sometimes to dismount and walk; and necessarily limited their peregrinations to the day. They thus had laborious exercise, with sufficient time for repose; and going alone, or in small parties, they regulated the time and manner of their movements and their meals, so as not to violate all their established habits of life. Travelling conducted in this manner

was invigorating; and must always do good to the valetudinary, when their infirmities call for exercise.

But in this bustling age of invention and internal improvement, travelling has undergone a change of character, quite equal to that which has been effected in the means by which it is performed. Travellers no longer go in pairs or little groups, but are aggregated into a miscellaneous and often discordant throng; which moves onward, like a turbid and turbulent current. The condition of all the sensitive individuals in such a migratory crowd, may be said to resemble that of the fishes, in the late flood of muddy waters, which swelled the Kentucky river; and presented those animals in thousands along its shores, seeking to escape the catastrophe which left many of them dead upon the beach, when the freshet subsided.

In the present mode of travelling, every thing, indeed, is sacrificed to despatch. The commercial spirit has swallowed up all others, and exercises an indisputable and domineering sway. Impatience, growing in proportion as it has been gratified, longs for a celerity equal to that of an arrow from the bow of a Pawnee chief. A journey *seems* now to be regarded (and truly it is made so,) as a painful probationary state, and human ingenuity is tortured to devise new means of acceleration. A trip on horseback, from Philadelphia to Boston was once a deliberate undertaking of ten or twelve days; and from the 'Backwoods' to the 'Old settlements,' an enterprize of three or four weeks; during which, health and vigor revived with the lapse of time. A journey of six hundred miles, then gave more of salutary exercise, than can now be had in travelling from Cincinnati to Quebec.

The vehicles of the present day, are steam boats, stage coaches and canal boats, neither of which is managed to suit the taste or wants of those who travel for health; nor indeed to be encountered with impunity, by the sickly or infirm.

The stage coach, hung on springs, gives but little exercise on smooth roads; while, from the speed with which it is driven, it subjects weakly passengers to excessive jolting over

rough ones. In the former case, its celerity and easy swing often produce nausea, which being seldom carried to the point of full vomiting, has most of the distressing attributes of sea-sickness, without any of the ulterior benefits. It is generally crowded with passengers who are strangers to one another; and when, from inclement weather, its curtains are closely drawn, the condition of every invalid is truly lamentable. In the drowsiest hour of night, the reluctant captives of the stage coach, whether in or out of health, are aroused from their beds; a ride of twelve or eighteen miles before breakfast, immediately follows; the time allowed for that meal and the necessary subsequent repose, is not one third of what is requisite; and the meal itself is prepared according to a rule of the tavern, and not the taste or wants of those who are to eat it;—dinner is served up and despatched in a similar way; and the unhappy travellers, driven till nine or ten o'clock at night, sup with voracious appetites at eleven, and retire, to *enjoy* three or four hours of oppressive and unrefreshing slumber. Finally, the real and imaginary dangers attendant on travelling at night, are sufficient to give concern to the most resolute or the most reckless, while to the sick and timid they are absolutely appalling.

Having in post haste, reached the steam boat, the jaded invalids, in the simplicity of their hearts, anticipate a speedy manumission; and true it is, that this proud monument of American genius, is exempt from many of the unpleasant circumstances attendant on the vehicle they have just left. However, it is thronged, restless and noisy; and the air of its crowded lodging rooms is necessarily confined. A constant tendency to alarm, especially after dark, exists among those unaccustomed to their new situation; and one or two nights are generally spent without sleep, or at least are greatly disturbed; by the end of which period, the itinerant invalids find themselves at the termination of a voyage, which has *exercised* nothing but their tempers and their fears.

A canal boat excites no alarm, except in the impatient; and affords sufficient time both for eating and sleeping; to the

latter of which, it abundantly disposes; but its lodging apartments are necessarily limited, and its nocturnal atmosphere confined and often oppressive. Its tenants have not room on board to walk, and none but the fleetest, can venture to escape on shore for exercise. Those who in all respects are quite well, may endure the *ennui* which it generates; for cripples, in sound health, it is an admirable invention; and for the sick or wounded, it is a mode of transportation far preferable to the military litter; but instead of affording exercise, it imposes a stagnation, as dead as the tranquil waters of the canal; and, considered as a means of invigorating the weak, it falls below the cradle or the rocking horse of our nurseries.

Thus, if the valetudinarian should not sink by the way, he may perform a journey of thirty hundred miles, in less than as many days; and return convinced, that from having passed through so much space, without benefit, his malady is incurable by exercise or travelling! Such a conclusion, however, would be wide from the truth. He has journeyed far, but enjoyed very little exercise; while at every step he has suffered injurious restrictions, or had his fixed habits of life overturned. New causes of debility have thus been added to the old, and no wonder that discouragement has been converted into despair.

It is the duty of every medical adviser to deter his patients from such dangerous experiments. They not only do harm by the positive evils which they inflict; but, by excluding that kind of travelling, which may really, in certain cases, do more good than the whole materia medica.

I will now briefly state the conditions that are necessary to render travelling actually useful to the infirm.

1. It should afford exercise; and to this end it should be undertaken on horseback, or in a carriage, not remarkable for its easy motion.

2. The journey should be protracted, in proportion to the difficulties that are to be overcome. In many cases, a few weeks may be sufficient; but in others, as many months are requisite.

3. It should be made over a healthy country, and as much as possible in mountainous districts; where the air and water are pure, and the aspects of nature picturesque and cheering.

4. It should be continued daily, to the point of fatigue, but not of exhaustion.

5. The patient should allow himself ample time for sleep and physical renovation.

6. He should be circumspect in his diet. The traveller's appetite is strong, and may be indulged with some latitude. But nothing can compensate for the effect of indigestible food. In the West, there are three standing travellers' dishes, which every invalid should refuse, or eat with fear and trembling. These are—1. Chickens who sing their own death-song under his dining-room windows; and are transferred from the aviary to the table, with less of culinary than vital heat, in their systems. 2. Rancid and fat bacon, fried with eggs until their albumen is coagulated into horn. 3. Hot, unleavened biscuit, saturated with lard, kneaded the moment before they are committed to the pan, and served up while they still send forth columns of vapour and volatile oil.—To hope that a day's journey of thirty or forty miles, even with the choicest friends; beneath the brightest skies; amidst the splendid Mosaic of our wide-spreading prairies, or under the green canopy of our lofty forests; and through an atmosphere, aromatic with the blended odours of the Woodbine and the Crab-apple;—in short, to expect that all the poetry of nature, and all the companionship of society, can win for us an exemption from acid stomachs, petulent tempers, and scowling brows, under such indulgencies, is to cherish a pleasant but most unprofitable delusion.

7. As far as possible, the patient should preserve inviolate his ordinary habits of life, and especially aim at maintaining a regular and healthful condition of his digestive organs.

8. The travelling invalid should, if practicable, have agreeable and accommodating associates, with whom he need

feel no embarrassment, and who would impose on him no injurious restraints.

Under such regulations, the cases are not a few, in which travelling will be found a remedy as efficacious as it is agreeable.

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I will conclude this brief and semi-professional essay, with a hint to those who travel on pleasure or business, in the western states. Of all the seasons of the year, our autumn is most inviting, but at the same time, the most dangerous to travellers. After some experience, and many opportunities for observation, I am convinced, that those who travel are much more subject to autumnal fever, than those who remain in one place. I could cite many melancholy cases, in support of this assertion, but will refer to one only. An emigrant lady resided ten years in the western country, without travelling in autumn, and without an attack of fever. She then undertook a journey in September, and was soon arrested by a severe bilous fever. Eight years afterwards, while travelling a second time, in August, she experienced a second attack; and two years subsequently, soon after a third journey, she was invaded a third time, by the same malady, and became its victim.

Of the different months, July, August, September, and the first half of October, are most to be dreaded. April, May and June, the latter part of October, and the first part of November, on the other hand, are nearly exempt from febrile diseases; and, although in some respects inconvenient, should be preferred to every other portion of the year.

*Cincinnati, September*, 1827.

## SELECTED ESSAYS AND CASES.

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### Art. III.—*Miscellaneous Observations on Purgative Medicines, and on Costiveness.* By John Ware, M. D.

[From the New-England Med. Review and Journal, No. 1.]

[The following essay contains very little that is quite new; but the author has given such a perspicuous and practical view of the important subjects on which he treats, that notwithstanding its considerable length, we shall make no apology for transferring it to the eclectic department of the W. M. and P. Journal.—Eds.]

Although there is perhaps no one point of practice, on which physicians of the present day are more generally agreed, than with regard to the great importance and utility of purgative medicines, yet it is probable that they do not in actual practice always recognize the extent to which they may be carried with advantage. There are few who do not, when they begin a course of treatment, secure a free evacuation of the alimentary canal; and who do not, as they proceed, take care to keep up an open state of bowels,—that is, to procure every day, or at farthest every other day, one or two discharges by the exhibition of some aperient. This routine is undoubtedly sufficient in the large majority of the cases to which we are called; cases, in which the powers of the system are, with a little assistance from art, adequate to the restoration of health; cases, in which there is no reason for suspecting the presence of any unnatural quantity of fæces. But where an accumulation of fæces actually exists, it is by no means an easy matter to get the bowels thoroughly evacuated, nor can it be generally effected in a very short period. And yet this evacuation is always important, and often essentially necessary to the success of our treatment; for, even where we do not conceive the disorder to have originated from

the state of the bowels, still this state has an influence upon its course,—and is as important to be taken into consideration in the treatment, as if it were an original element of the disease.

The objects which may be effected by purgatives are two: 1, the evacuation of the contents of the intestines; 2, the production and evacuation of fluids by secretion from the mucous surface of the intestines, and from the glands opening upon that surface. These objects are in their nature perfectly distinct; and under different circumstances of disease we have recourse to purging with each of these distinct purposes. But still, in actual practice, we can not in any way effect one, independently of the other. Thus, when there is an accumulation of fæces, the most ready method of evacuating them, would be simply to excite the peristaltic motion of the intestines. But we have no article which will do this, without at the same time exciting the secretions, so that the cathartic effect will be partly owing to the action of the secreted fluids, which, in passing over and through the hardened masses which fill the large intestines, soften, dissolve and wash them away. On the other hand, when the principal object is to produce active secretion, the state of the bowels is seldom such, but that fæcal matter is mixed in and brought away with the secreted fluids.

It is principally the first object of purging, viz. the removal of accumulated fæces, to which my remarks are at present directed. And they are not made so much with the expectation of saying any thing new upon the subject, as with a desire of illustrating the importance of a perseverance in the attention paid to the bowels, particularly in chronic diseases, and in cases where there has been continued costiveness, or where we have reason to think that there is an accumulation of fæcal matter in the bowels; and this, whether we believe the accumulation to have been the cause of the disease, or not.

I can in no way so well illustrate the necessity which exists in such cases, for long continued, as well as active purging, as by the relation of a remarkable instance of the kind, which occurred under my notice.

Mrs. S. W. was delivered November 23, 1824: no peculiar symptoms attended her labour; but immediately after getting into bed, she was seized with a severe fit of shivering. In the

evening she had another attack, accompanied by a spasmodic twitching of the muscles of the arms and shoulders; to which, however, she had been frequently subject after confinement, having borne eight or nine children before the present, and having always had what is called a bad getting up. Her bowels were freely evacuated by castor oil, and no particularly untoward symptoms occurred for several days. Still her appetite was poor, she was weak, and suffered occasionally from nausea. Her pulse became quicker, and the lochial discharge was less than usual. She was able to sit up every day, and once or twice appeared to feel a desire for food. Eleven days after her confinement, December 4, she took an emetic, which, although it operated well, gave no relief to the nausea. The same evening, she was seized with pain in the left side, in the region usually affected by the pleurisy. This pain, although not very severe at first, continued increasing until the next evening, when it became excruciating. Every inspiration was accompanied by a severe groan, and there was apparently a constant belching from the stomach. The violence of this symptom was very remarkable, but its exact nature it was difficult to discover. It began with a sensation of oppression at the stomach, like that produced by wind: an effort to throw up wind succeeded,—and it was apparently brought up, in large quantities, by a succession of efforts for an hour together. Whether air was really evacuated at this time, or whether the sensation at the stomach produced an effort by which air was swallowed and then thrown up again, I do not pretend to determine. I was inclined to the latter opinion, because there was no such distension of the abdomen, as would necessarily have been produced by the quantity of flatus which was apparently evacuated. These fits of belching, lasting from a few minutes to nearly an hour, continued to occur for several days.

For this violent pain in the side, she was bled, blistered and purged. There was no buff upon the blood drawn. The next day the pain had removed higher up in the side, underneath the arm-pit, it then successively seized upon the shoulder, the two thighs, and the two legs. No sooner was it relieved in one part, than it made its appearance in another. It was less completely removed in the lower limbs than elsewhere, and it was many months before their use was regained. These attacks of pain

continued for about a fortnight, and in the mean time the digestive organs had become extremely deranged. The appetite was totally gone; the stomach felt as if full of mucus, and as if vomiting were about to take place; the belching still continued; and she was occasionally seized with the spasmodic twitchings of the muscles before mentioned. The pulse were rapid and small, varying from 120 to 140. The tongue was not very much furred; the countenance tolerable; sleep indifferent.

This state continued for at least four weeks, during which period she literally took no nourishment, except a little tea, or some other unsubstantial drink. She became very much emaciated; was once delirious; and at one time death seemed to be actually approaching. At the beginning of that peculiar state of the stomach which has been described, small doses of ipecacuanha, five grains, were administered once, twice or three times every day, according to circumstances. They produced a slight emetic operation at each dose; a good deal of tough mucus was discharged, and they were productive of decided benefit. They were recommended by Dr. Jackson, with whose counsel I was favoured in the management of this case. With the exception of local applications, such as blisters and fomentations, all other treatment was confined to regular purging. Cathartics were administered as perseveringly as her strength would admit: they were followed uniformly by copious discharges, containing fæces in a softened state, and also loaded with hardened scybala, or lumps of fæcal matter, in astonishing numbers. At the end of four weeks from the severe attack, and nearly six from her confinement, she began slowly to improve, and for several days drank freely of porter and water, which was the first nourishment taken. She gained strength upon this diet, but still continued to take aperient medicines, and to bring away fæcal discharges. In fact, she passed consistent figured stools, of a natural appearance, before taking any considerable quantity of solid food. Convalescence went on slowly but surely. Her feet and ankles were swollen for several months, and it was long before her legs regained their ordinary strength.

The principal circumstances worthy of notice in this case, were the immense accumulation of fæcal matter in the intestines, the length of time during which it was necessary to persevere

in the use of purgatives in order to remove it, and the power manifested by the system, of enduring these medicines, although at the same time no nourishment was taken into it. Certainly for more than a month, a cathartic was given as often as every other day, frequently for several days in succession, whilst nothing but the thinnest liquids were taken into the stomach.

Whether the accumulation of fæces, in this instance, was the only cause of the train of symptoms which occurred, is doubtful. But it is certainly conceivable that the affection upon which these symptoms depended, was at least fostered and kept in activity by the state of the bowels, after it had once been produced. The accumulation of fæces we know to exist, in many cases, to a very great extent, in persons who yet remain quite healthy, for a great length of time; and who yet, if they become sick from any other cause, seem unquestionably to suffer from the state of their bowels, and require to have them evacuated before they can recover. From such cases we might infer, that even where costiveness does not produce disease, it is capable of preventing diseases otherwise produced, from being cured by the efforts of nature, or by other remedies.

The mucous surfaces have the power of accommodating themselves to the presence of foreign bodies, so that they cease to irritate them, whilst in their natural state. It is from this circumstance, that the bowels get accustomed to the presence of indurated fæcal matter in the large intestines, so that it no longer acts as a stimulus to produce its own evacuation. By degrees the juices of the excrementitious matter become absorbed; it hardens and contracts very much in size; it gets deposited out of the track of the discharges, in the cells of the colon, in the form of lumps, surrounded by the intestinal mucus, which still further contributes to protect the bowel from its stimulating quality, and to insure its retention. There are many circumstances which illustrate this power in various parts to remain passive and quiet under the presence of substances whose natural tendency is to produce an irritation adequate to their own expulsion, like a foreign body. Thus a ball, or a piece of glass, will remain imbedded for many years in the flesh—food will remain for several days in the stomach, and then be vomited unchanged—an extra-uterine fœtus will remain for a long time in the cavity of the abdomen without exciting irritation, until some

accidental cause excites inflammation around it. The same takes place with regard to tubercles in the lungs, tuberculated diseases generally, and sometimes with regard to wens. They will remain for a long time in a quiescent state, the parts around them having become habituated to their presence, till at last some accidental cause brings on irritation and inflammation around them, and a process is set up to get rid of them.

This state of the bowels may take place gradually, whilst the subject of it is totally unconscious that every thing is not going on in a manner perfectly satisfactory. He may have every day a discharge, and yet an accumulation of fæces may be actually taking place, or may actually exist to an injurious extent. Although an evacuation may take place every day, yet the fæcal product of each day may not be wholly carried off. A part of it may pass on through the large intestines, go out of the body, and leave the remainder behind, to increase the accumulation which already, perhaps, exists. Many patients and many physicians are entirely deceived by this circumstance; and they conclude that the bowels are in a natural state, when in fact they are loaded with fæces, and are becoming more so every day. To most patients a discharge is a discharge, be it great or small, hard or soft, thick or thin; and if they have one every day, they are satisfied, and tell their physician that they have no tendency to costiveness, and have never suffered from it. It is difficult, particularly in some instances, even where a physician is in attendance, to ascertain very minutely the character and quantity of the stools. It is still more difficult to determine with any certainty, what has been the state of the bowels before attendance commenced.

The same thing may happen, even when medicine has been taken to keep up regular discharges. The medicine produces a watery secretion in the small intestines, which may pass entirely through the body of fæces accumulated in the large intestines, dissolving and carrying away some small portions of them, but leaving the main part behind.

A costive state of the bowels, and a consequent accumulation of fæces, is not necessarily inconsistent with a tolerable, or even a very good state of health. And some persons, probably, pass through life, without being sensible of any very considerable inconvenience from this source. This, however, does not often

happen; and although an accumulation may not, perhaps, directly produce sickness in very many cases, yet whenever any other cause produces it, this state of the bowels is found a great impediment to recovery. For, although in the healthy state of the intestine, the presence of this foreign matter, for so it must be considered, may not be noticed, yet when the irritability of the intestine is increased or modified by disease, it becomes a source of serious irritation. It is easy to conceive how an accumulation, which is borne perfectly well, when the mucous surface is in its natural state, may, when it is in an unnatural state, produce great difficulty, increase and perpetuate disease, and require to be removed before health can be restored. This will be more particularly the case, where the digestive organs are the seat of derangement; but it may happen in almost any case, for there are few cases, in which the stomach and bowels remain through any disease in a natural state. A patient with dyspepsia, or with any chronic disease where the digestive organs are affected, feels the worse for any omission of a daily discharge, although, when in health, he may perhaps have gone long without suffering. A person who has eaten to excess, if his bowels are free from accumulated fæces, may be relieved by a simple diarrhœa. If he has been very costive, this diarrhœa may pass into dysentery. For as soon as the natural state of the bowels has been changed, the fæces become sources of irritation; this irritation causes the dysentery, and consequently the fæces must be discharged before a cure can be effected. This is, probably, the state of things in those dysenteries accompanied with scybala. A person who has tubercles in the lungs, giving him commonly little or no trouble, may take a common cold which excites inflammation around them; and they may become a source of irritation, in the state of the lungs produced by the cold, although they were in a quiescent state before.

In very costive persons, whatever disturbs the bowels, either by interfering with their natural habits of action, or by producing a great mechanical impression upon them, is very likely to call out their latent irritability, and to bring on a state of them, in which the present fæces become sources of irritation, and require to be completely evacuated. This effect, in a mechanical way, is, I think, produced by the change which takes place in the situ-

ation of parts within the abdomen at parturition. We find patients, for instance, who have been very costive during pregnancy, and remain so up to the day of delivery, who become sick soon afterwards, and require a thorough course of evacuant medicine before they are restored to health. This often happens in a slight degree. The case just related is an example of the very severe effects which may be presumed to have arisen from this source; and cases are not uncommon, in which symptoms of a very serious character take place.

It is probably from the disturbance of this quiescent state of the fæcal matter in the bowels, that the operative medicines administered, even in persons who, from their habit of body, certainly require an evacuating treatment, often produce for several days great irritation, not only of the canal itself, but of the whole system. The patient in these cases, is very ready to be persuaded, from this circumstance, that the treatment is not adapted to the complaint, and that he is injured rather than benefitted by it. Indeed we are ourselves too easily diverted from the course which our judgment has originally dictated, by the same cause; although, if we persevere, it is seldom that we are finally disappointed in our expectations of advantage. It is certainly not at all uncommon, in chronic cases, accompanied or caused by costiveness, that an aggravation of the symptoms follows the first administration of cathartics; which, as has been observed, is probably to be attributed to the breaking up of the old habitual state of the bowels, and the production of a new state, in which the fæcal matter becomes a source of irritation, although it was not so before. It is remarked by Dr. Smith, in his Essay on Typhus Fever, that a smart operative dose of medicine will seem suddenly to make a person very sick, who had been apparently but slightly indisposed before. I think every physician must have met with cases of this kind, in which the exhibition of medicine seems to develope, to bring out, as it were, the disease which had been perhaps hanging about the system for many days before, without making the patient very sick.—This appears particularly to happen, with regard to fevers, as remarked by Dr. Smith, although the observations made above, afford an explanation somewhat different from that which he seems inclined to adopt.

The more infirm and slender the health of a person is, then, the more necessary is it, that he should have a daily fæcal discharge. The reason being, that in his bowels the fæcal matter acts as an irritating or oppressing agent, whilst in a strong, healthy man it is not felt. In the latter, the bowels can accommodate themselves to the presence of an unnatural quantity of fæces, just as the stomach can to the presence of an unnatural quantity of food. When a person becomes dyspeptic, one of the first symptoms he is led to observe, is, that he feels worse when he fails in the regular alvine evacuation; and hence he is often led to believe, that costiveness is originally the cause of his disease, when it may be in fact a consequence; or the existence of the complaint may be the reason why he suffers from any obstruction in his bowels, and why he may even require to have them kept more thoroughly cleared, than is natural in the most healthy state, since even the natural quantity may not, under certain circumstances, be retained without irritation.

The reason that purgatives are of so much service in disease, separately from their power of producing secretion, even where there exists no extraordinary accumulation, is something of the same kind. In fever, for instance, the vital state of all the surfaces is altered, particularly that of the alimentary canal.—Hence that fæcal matter, which was no cause of offence in the natural state of this membrane, becomes a cause of offence in this altered state; just as light does to the eye, sound to the ear, urine to the bladder and urethra, and the placenta to the uterus, when the surfaces of those organs have become changed from their natural state. Consequently the removal of it may either enable the system to cut short the disease at once, or at least to contend with it at greater advantage. Fevers, in which the patients are costive, generally do well, and are benefitted by medicine; but where the irritability of the bowels is so great, as to cause an effort to clear them by a spontaneous diarrhœa from the first, the case is less promising, because it may be regarded as indicating either a severer degree of the disease, or a system unfavourably constituted for enduring it.

Those physicians who have *always* been accustomed to pursue the commonly approved method of treating fevers, are very unfavourably impressed with regard to the course which has

been sometimes advocated, that of treating them almost wholly by stimulants, and permitting the bowels to remain very costive. We are apt to think such a practice must be very fatal in its results; and from the benefit which seems to attend the opposite system, one can hardly be persuaded to believe, that such a course can be safe. Still, however, it is probable that we overrate its fatal tendency. The practice of administering opium and highly stimulating substances and of keeping the system constantly under their influence, seems to have the effect to lessen its irritability, and thus prevent it from suffering from the presence of fæcal matter in the bowels. In this way, a patient may go through with a fever as safely, or possibly even more so, than if it were left to nature. This is a matter, however, which it is difficult to determine, and with regard to which there will be great difference of opinion.

Colic, we know, appears sometimes to come on spontaneously, or from the influence of cold; no indigestible substance having been taken into the stomach. In such cases, it is probable that the ordinary fæcal matter present in the bowels, acts upon them in their disordered state as a source of irritation, as a foreign substance, and excites the violent pain. At any rate, although a discharge of fæces is almost without exception followed by relief, yet bleeding or opium will also, in many instances, appear to cure the disease without any evacuation from the bowels; these remedies appear to operate by quelling the too great susceptibility of the gut to impression: and as a consequence the fæcal matter no longer operates as a foreign substance, but is quietly retained. I recollect a case of fever, in which all cathartics, even those of the mildest kind, produced such violent pain and distress in the bowels from their operation, that it seemed most safe to give up their use, suffer the bowels to remain costive, and trust the event to nature. In dysentery, some practitioners of great experience and sagacity, defend the practice of keeping the action of the canal entirely down by opium in large doses, and to use no other medicine, except an occasional mild laxative. All these circumstances tend to show, how much the effects produced by fæcal matter in the intestines depend upon the state of the intestines, whether existing naturally, or as induced by medicine; and that, because there is an accumu-

lation of fæces, it is not, therefore, under *all* circumstances, necessary to proceed at once to their evacuation.

The tendency of all these facts is, on the one hand, to illustrate the necessity of caution, in undertaking the complete evacuation of the bowels; and, on the other hand, of perseverance in the attempt, when it has once been begun from a thorough conviction of its propriety. We are apt to suppose it much sooner, and more easily done, than is really found to be the case. We are sometimes deceived, when we are purging a patient, whom we suppose to have accumulated fæces in his bowels, in supposing that, because we bring away large discharges, that we are therefore removing the accumulation very fast. When the bowels are in the state that I have supposed them to be, in a costive person, it must be very difficult to excite them to throw off the indurated fæces. This could only be done by producing a strong muscular action in those parts of the intestines where the accumulation is lodged, viz. in the large intestines. But, the very accumulation prevents medicine taken into the stomach from coming in contact with those parts and producing action there. Its operation, therefore, is expended principally upon the small intestines, where a copious liquid secretion takes place, which passes down through the large intestines, loosens and dissolves portions of the fæces collected there, and discharges them in the form of lumps, floating in a fluid, but does not bring them away in mass. This mode of evacuating the intestinal canal, when it has been much constipated, is a very gradual business, although, to appearance, great quantities are discharged. Every man, who is in the habit of inspecting the evacuations, must have often remarked that, after he has been purging a patient through a fit of sickness, producing every day numerous and copious fæcal discharges, a number of good-looking, substantial, figured stools, will take place as soon as convalescence is established, without medicine, and before the patient has taken any noticeable quantity of food.

We seem to stand in need of some medicines, or some agents, which shall have the power of exciting muscular action in the large intestines, without direct application to their mucous surface. These intestines are intended to act as a depositary of the fæces for a certain length of time, and by a defect in their

action they retain them, and they thus become lodged in the cells of the colon. To dislodge them from these cells requires the action of the circular fibres of the gut to throw them into the centre, where they may be taken up by the common peristaltic motion, and carried downward. Now, this downward motion may be kept up, whilst the other does not exist, since they depend upon separate sets of muscular fibres; and in this way the secretions produced above may be carried through, whilst very small quantities of fæces are evacuated.

What we need, then, is some medicine or agent which shall obviate the difficulty, by exciting this double action in the large intestines. Cold will sometimes do it. Wet feet, or exposure to a cold and damp atmosphere, as in a cellar, or in a room without a fire in some kinds of weather, produces in many persons pains in the bowels and fæcal evacuations. Dashing cold water upon the bowels and thighs has been advised for this purpose. Emetics are strongly recommended by Dr. Hosack for obstinate costiveness, and probably, every physician has seen copious fæcal evacuations follow their use; and it is very likely that the mechanical disturbance of violent vomiting, as well as some sympathetic influence upon the large intestines, may dispose the fæces to be more readily evacuated. The relative value of the different common cathartics is well known to physicians; little, therefore, need be said of them. Of one article, however, which has lately been getting into use, and which I have very frequently administered, I would remark that it appears to possess more power of the kind so desirable, than perhaps any other cathartic. I mean the croton oil. Its most remarkable quality is that of producing the discharge of fæces, which it does very abundantly, as in the following case, although its effects are not always so decided.—A patient, who had suffered very much from headach, dizziness, &c. accompanied by costiveness, had been taking cathartic medicines, such as castor oil, pil. cochiæ, calomel and jalap, for several days, with tolerable operations, but without relief. One drop of croton oil was administered, in half an ounce of syrup of Tolu balsam. It produced most violent gripings in the bowels, and brought away, within a few hours, the most copious fæcal stools I ever saw, which were nearly solid. Her symptoms were immediately and entirely relieved.

When the sole object is the discharge of fæces without secretion, the frequent administration of small doses of the resinous cathartics has seemed to have a more satisfactory operation than the same, or any medicines, in larger quantities. When given in this way, they do not act so suddenly and so violently, as to be carried off in the copious secretions which they produce.—They, probably, pass slowly through the large intestines, dissolved in the fluids they have caused to be poured out in their passage; they thus have time, in a manner, to soak into, to pervade the fæcal mass, and to impart to it a stimulating quality, which excites the bowels to action, and thus produces its evacuation.

Nothing can be more important to a physician, when he is purging a patiennt, particularly with a view to the evacuation of accumulated fæces, than for him to inspect all the evacuations. It is impossible that he should otherwise be able to judge how much impression he is actually making upon the bowels, how far the effect of his medicine is confined to the proper object he has in view, and how much it expends itself in the production of secretion merely. The accounts given by patients themselves, or by their nurses, are worth little or nothing. They do not communicate the facts themselves, but only their own results, founded upon a very imperfect observation of the facts. One is sometimes perfectly amazed at the difference between what he sees, and what he expected to have seen, from the description given of the quantity, consistence and colour of the discharges from the bowels.

A very difficult and delicate matter to manage, is that habitual costiveness, which seems to require a remedy, not because it has caused, or is connected with, any settled or important disease, which requires purging to remove it, but because the want of sufficient evacuation keeps the whole system in a disturbed and irritable state. It is true, so many persons pass through life in this confined state of bowels, and yet enjoy very tolerable health, that it might seem to admit of some doubt whether it be invariably best to attempt the amendment of the habit by any very active measures. Yet there are, on the other hand, so many who do suffer from it; so many hypochondriacs, or habitual invalids, whose ailments have either been originally

produced, or are at least constantly aggravated, by this cause, that it becomes a matter of some importance to devise means of remedy.

The causes of costiveness are no doubt different in different individuals, but the actual and immediate state of the bowels themselves is probably in most cases nearly alike. The difficulty appears to consist in the inirritable state of the mucous membrane, in contact with which the fæces lie: or of the muscular coat, which corresponds to it on its external surface; or it may arise from the want of the natural stimulating qualities in the fæcal matter, caused by a deficiency of bile, or of some of the other secretions of the canal. The objects to be held in view, then, in remedying costiveness, will be either one or both of the following, according to circumstances. First, to restore to the mucous membrane, and the muscular coat of the intestines, their natural sensibility to the stimulus of fæcal matter; or, second, to render the contents of the canal more stimulating in themselves, and thus to enable them to excite in the bowels a degree of action sufficient for their expulsion.

There is no certain way of effecting the first object, except by such general remedies as affect the whole system, and amend the state of all the functions,—such as exercise, proper diet, &c. It is possible that frictions over the abdomen, continued for a long time, at the same time kneading the bowels with as much force as they can bear, might have some effect. Cold water applied to the abdomen has also been recommended. The second object may be effected by a diet consisting of substances of an aperient nature where the stomach will bear them; or by the exhibition of purgative medicines. From the favourable change which has been sometimes observed to take place in the bowels of costive persons after long fits of sickness, and which a proper degree of care might make permanent, the following plan seems very likely, if thoroughly persisted in, to break up a sluggish state of the bowels, and restore them to a natural activity.

Where there has been a confirmed costiveness, it would seem best to begin with thoroughly evacuating the bowels by medicine, in order to put them into a completely new state, by breaking up all the old habits of action, all the associations and sympathies of the system, which have been predicated, if we may so speak, upon this unnatural but habitual state of the organs of

digestion. The favourable change sometimes brought about by a fit of sickness has been alluded to. We may perhaps, to a certain extent, imitate the process, by a course of medicines which shall carry away every particle of the accumulated fæces and thus put the bowels into a new state—fit them, as it were, to begin anew. This complete evacuation, as has been already remarked, is not a perfectly easy matter. It is very difficult to feel sure that it is effected. It can not be done by one or two smart cathartics, as some persons talk of evacuating the bowels, but rather by a succession of more moderate ones, which will bring away fæces, and not expend themselves in producing secretion.

This being done, let the patient in the next place accustom himself, *so far as his stomach will bear it*, to such articles of diet as furnish a large proportion of excrementitious matter, and that also which is of a stimulating quality to the bowels. Such are vegetables, fruit, rye bread and pudding. *With* every meal, let a single pill of two or three grains be taken, containing several of the principal powerful cathartics in very minute quantities,—so mixed, that each pill shall contain a portion of each of them. The size of the pills to be increased if no effect be produced, or diminished if too much. The object of this method of giving medicine with the food, is to impart to the mass of the fæces, as they are formed, a stimulating power adequate to their own evacuation, instead of administering the same articles separately as purges, which often fails of producing the precise effect wanted. At the same time, let the patient, several times a-day, whenever, in fact, there is any thing like an inclination for a stool, solicit nature to a discharge, and make all such efforts, by bearing down and straining, as are naturally made on such occasions. Let him also, at one or more particular periods, make a voluntary effort on the chair to procure a motion, if he have no inclination; for a continued voluntary effort, even a slight one, particularly when combined with the associated circumstances of time, place and opportunity, has no inconsiderable effect in bringing on a regular action in the bowels.

At first it is sufficient to make sure of adequate evacuation at any time; but when sure of this, it becomes important to have it take place at particular periods, because success must finally

depend upon the formation of a regnlar habit. I am inclined to think, that a person disposed to be costive can more easily form and preserve the habit of having two discharges in the twenty-four hours than one, although a single one is generally esteemed sufficient. This I have certainly found to be the case in one person, who, so long as he obeyed every indication of motion in his bowels, had at least two natural discharges every day; but, as soon as he resisted the disposition, in order to confine himself to a single discharge, became costive again, and his habit was broken up. The reason of which may probably be, that when the fæcal matter remains long in the bowels, its liquid parts are absorbed, and it consequently becomes dryer, harder and less stimulating. This, indeed, may be one great difficulty with costive people, that there is a peculiar disposition in their bowels to absorb the liquid parts of the fæces unnaturally soon, so that the mass becomes very speedily dry and hard. It should be a rule, then, with the patient, having fixed upon certain convenient hours for this occasion, morning and evening for instance, to make invariably a regular effort at those hours, whether he have a disposition or not, and to continue it for some time. At the same time, however, observing never to resist any disposition to evacuate at other parts of the day, till his habit is securely fixed.

The use of the pills above mentioned, may be gradually relinquished as the habit is formed.

There is one sort of obstruction in the bowels, which occurs in the course of diseases, which is always a perplexing and troublesome, and often a dangerous symptom. It seems rather to depend upon an unnatural state of action in some part of the alimentary canal, than upon any accumulation of fæcal or secreted matter. And a restoration of the natural action, and of discharges from them, are measures necessary to relief. In this state of obstruction, there seems to be some insurmountable opposition to the operation of medicine. Large doses of the most powerful cathartics are given without any discharge at all, or else with very trifling discharges. Yet often, as soon as death takes place, the difficulty seems to be removed, and the patient purges violently.

A case occurred to me lately which appeared to illustrate at least one of the states of the bowels, under which these symptoms

present themselves. The patient was a little girl of two year old, who had not been well for some days, and on a Friday, was suffered to eat some lobster. It caused distress and vomiting: on Saturday the parents gave an emetic, and on Sunday she seemed to be relieved. On Monday, however, she became very sick again, and I was then first called to her. Her countenance expressed great distress, her respiration was laborious, her skin hot, and pulse very rapid. The nature of her distress, and the kind of respiration, as well as a fullness, hardness and tenderness of the abdomen, pointed to the bowels as the seat of difficulty. For two days persevering attempts were made, by the most efficient cathartics, assisted by injections, to procure evacuations from the bowels, but without success; small mucous discharges only were obtained, and these with great pain. Blisters and fomentations gave only temporary relief. In a little more than forty-eight hours, she died.

On di-section, the bowels were not found, properly speaking, inflamed,—but in many parts bore marks of very great irritation. The small intestines, and the upper part of the larger, were perfectly free and open, and full of such secretions as usually form the bulk of the discharges from the bowels when physic has been taken. But the lower part of the rectum, from the anus upwards, to the extent of six or eight inches, was so contracted as to have lost entirely the appearance of a canal, and looked like an impervious cord. In this case there was probably some permanent spasmodic affection of the rectum; and could this have been removed, the patient might have been saved. It is possible, could the nature of the obstruction have been distinguished, that a milder practice would have been more successful. Opiates might have relaxed the stricture which resisted cathartics. And it might perhaps have been worth while, as glysters were with very great difficulty thrown up, and never retained, to have introduced a bougie of sufficient size to dilate the intestine, and to have kept it there till the tendency to spasm in the muscular fibres had been overcome by thus keeping them extended.

*Boston, December,* 1826.

## ORIGINAL REVIEW.

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ART. IV.—*Principles of Dental Surgery; exhibiting a new method of treating the diseases of the Teeth and Gums; especially calculated to promote their health and beauty, accompanied by a general view of the present state of Dental Surgery, with occasional references to the more prevalent abuses of the art. In two parts.* By LEONARD KŒCKER, Surgeon Dentist, Doctor in Medicine and Surgery, Member of the Medical and Linnæan Societies, and of the Academy of Natural Science of Philadelphia, etc. etc. etc. London. 1826. pp. 445.

Taken all in all, the mouth is unquestionably one of the most important organs of the body. Our functions have been divided by the physiologists into organic and animal; and the mouth performs offices, which belong to each division. If, according to the Philosophy of Sancho Panza, the heart supports the brain, and the stomach the heart, it is equally true, that the mouth supplies and sustains the stomach. It is, indeed, to the stomach, more than the jackall to the lion; for while the king of beasts can dispense with his purveyor, the great ruling organ of nutritive life, would make but an *empty* pageant without the mouth. It is the business of the mouth to select and prepare the pabulum of life, for reception into the stomach; and according as it performs this office well or ill, will be the success or failure of the stomach in manufacturing a due supply of nourishing chyle. Without such a supply, the heart, from necessity, sends into all the organs, a fluid which only *resembles* perfect blood; and consequently the functions generally must suffer injury. Thus, from the first hours of infancy, to the closing days of our second childhood, the mouth is a busy and tireless member of the great community of *nutritive* organs; and in reference to its casulties and

disorders, seems fairly entitled to more attention than it has hitherto received.

Viewed in connexion with the organs of *animal* life, its claims are not less momentous. As the seat of taste, and in infancy of touch also, it is entitled to a rank the more respectable, from those being the senses through which our earliest knowledge of external bodies is acquired. But its chief dignity and usefulness, come from its being the instrument of speech; a function too important, and too universally agreeable, to require any elaborate encomiums of ours. We may ask, however, what it would signify to us, to be endowed with organs of sense, emotion, and intellect, if they had no *mouth piece?* Sensations, emotions, locomotions, and thoughts, would avail us but little, if the power of oral expression had been withheld. Were it abolished, the human race would suffer a metamorphosis little less distressing, than that, which, according to the fictions of ancient poetry, converted human beings into trees; depriving them of the power of social intercourse, while the propensity for it remained abated.—Among the faculties, then, both organic and animal, the mouth plays an important, but very different part—to the former, it is an organ of ingress, to the latter of egress: it conveys to one class, the things which may be productive of good or harm; for the other, it gives utterance to an expression of the good or harm which they experience.

Such various functions, necessarily require a diversity of structure; and accordingly we find the mouth composed of many subordinate parts, each having a proper office, and specific vital properties. 1. The sub-stratum of the whole, are the maxillary bones; the upper remarkable for its sinuses, and both distinguished by the lamellar processes, which constitute the alveoli or sockets of the teeth; and disappear by absorption, when they are extracted. After these follow—2. The teeth themselves; twenty in number in childhood, and thirty two after puberty. In structure, even these apparently simple bodies are found to be complex. Sawed through from one end to the other, each one presents an outside of bloodless

and nerveless enamel, then a softer body of bone, not destitute of vessels; lastly, a longitudinal cavity, beginning at the lower extremity of the fang, ascending towards the crown, and lined with a membrane, in which ramify an artery, vein and nerve. 3. A fibrous membrane, the periosteum, which closely invests the jaws, and descends into the sockets of the teeth, to connect them with the maxillary processes. 4. Several pairs of strong muscles, designed to move the jaws, and to constitute the lateral walls of the mouth. 5. The lips, with their erectile tissue, delicate epithelium, and fine sensibility. 6. The parotid, sub-maxillary, sub-lingual and buccinator glands; designed to secrete the saliva, so essential in mastication, and so important in gastric digestion. 7. The mucous membrane, which lines the whole mouth, and prepares it for the impress of external bodies. 8. The tongue, with its papillæ, sense of taste, and wonderful powers of motion.

Such is the assemblage of parts which compose the mouth. Each of them performs one or more functions, peculiar to itself; and each has its living attributes, which are some modification of those common to all the organs of the body. The physiologists know, that to produce a joint effect, these numerous sub-organs must be associated by something else, than the bony frame work about which they are arranged; and it remains for us briefly to indicate the connecting parts.—They are chiefly arteries and nerves.

1. The mouth is well supplied with blood vessels, the whole of which are derived from the external carotids. The advantage of this arrangement is obvious. In mastication, the muscles, tongue, mucous membrane, and salivary glands, are awakened into action, and require, simultaneously, an increased supply of blood to sustain them in their exertion. The arterial excitement thus created, spreads through all the branches that supply the parts concerned, and increased determination of blood takes place alike to all.

2. But the most important links in this association are the nerves. These are chiefly the second and third divisions of

the Fifth pair; and certain branches of the portio dura of the Seventh pair. The former preside over mastication; the latter, in the opinion of Mr. Bell, over speech. The muscles, the teeth, the salivary glands, the mucous membrane and the tongue, are furnished with twigs of the Fifth pair; which not only bestow upon them, severally, their specific sensibilities, but confederate them, in the important office, they are required jointly to perform. Among these specific endowments, the most important is the sense of taste, which resides chiefly in the tongue; and appears to have little or no dependence on the nerves, which bestow on that organ its powers of motion. In every system of associated organs, the sensibility of some one, governs the rest; and thus the sense of taste presides over all the functions that constitute mastication. When *it* is excited by savory food, the 'mouth waters'—that is the secretion of saliva and mucous is increased; the lips and muscles have their sensibility and contractibility exalted, more blood is invited into the whole, and a species of orgasm excited, which continues as long as the tongue and mucous membrane are stimulated.

In speech, a different stimulus is applied—another kind of excitement required. The lips, the salivary glands, and the membrane of the mouth, secrete even less than usual. Muscular motion only, is performed; and this is executed under laws of association, in a great degree distinct, from those which regulate the mechanical part of mastication. If the same instruments are employed, they are wielded by a different artist, and for a very different purpose. Of this function, the governing nerves would seem to be the portio dura of each Seventh pair, denominated by Mr. Bell, the respiratory nerves of the face. We must confess, however, that additional facts are necessary to the full elucidation of this intricate piece of physiology, which happily we are not required, on this occasion, to prosecute any further.

Having considered the mouth as an insulated or independent organ, we come to inquire into its physiological connexions, with the other parts of the system. These are chiefly

with the brain, lungs, and stomach; and are effected by means of the nerves which have been named.

To the brain a branch of the Fifth pair conveys the impression of sapid bodies; and through a branch of the Seventh pair, that organ transmits to the lips the power of expression, which enables them, even without the utterance of sounds, to indicate many striking conditions of the soul. The same nerves establish an intercourse between the mouth and lungs; by which the former is enabled to draw upon the latter, for the supplies of air, that are indispensable to rapid or emphatic articulation. To this end, the mouth may be said to govern the lungs; and the function of respiration to be subsiduary to that of speech. But we must pass briefly over these matters, however curious in themselves, to pursue the main object of our review:—and we proceed to say, that the chief connexions of the mouth are with the stomach. These are dependent on the Fifth pair; which, under this view, are to be considered as nerves of digestion. In the polypus, a simple *cul de sac* is the seat and instrument of this function; but in man, it is performed by a complicated apparatus, of which the different parts are placed more or less remote from each other. Designed to concur in a common result, it was necessary to provide the means of communion and concert among them, and these are evidently the nerves; which, extending from all the digestive organs to the great nervous centres, through the incomprehensible agency of those centres unite the most distant parts, annihilating space, and securing concurrence of action, where, from a superficial view of the subject, it might have been least expected. Thus it is that agreeable food imparts energy to the stomach, while offensive tastes excite nausea; and on the other hand, hunger increases the sensibility of the mouth, and sickness causes an increased flow of saliva.

After these physiological recollections, we are better prepared for studying the diseases of the mouth; some of which affect it, in common with other parts of the body, while several are peculiar, and constitute the proper objects of enquiry on

the present occasion. Of the former, we may mention cancer of the lips, paralysis of one side of the tongue and face, perversions of taste and common sensibility in neuralgia, aphthæ and sloughing ulcers, especially affecting children, and superficial læsions of the mucous membrane in dyspeptic adults. The chief maladies peculiar to the organ, are difficult dentition; anomalous arrangement of the teeth; caries; tooth ache; incrustation of the teeth with tartar; sponginess and suppuration of the gums; inflammation of the periosteum; and devastation of the alveolar processes;—a catalogue sufficiently ample to fix our attention, even did not most of them, at one time or other, occasion diseases in other parts of the system.

The experienced author whose name is prefixed to this article, after having practised his profession in Germany, the United States and England, has come to the conclusion, that diseases of the teeth are more common in this country, than any other with which he is acquainted. The causes of this greater frequency, can not, perhaps, be easily assigned. We have reason to believe that, on the whole, the mouth is more liable to diseases in civilized than savage life—for example, among the American people, than their slaves or Indian neighbors—and that its maladies occur with greater frequency and violence, in the inhabitants of cities, and among what are denominated the higher classes, than the people of the country. The causes of *this* disparity are perhaps less obscure, as may appear from what we are about to say, on the Ætiology of dental maladies.

1. It is a law of the animal economy, that the organ oftenest thrown into high excitement, is most liable to disease. Now the civilized state is one of wealth and luxury; it is emphatically an eating state. It has greatly extended the catalogue of aliments and drinks, sought out the most pungent condiments, devised new modes of cookery, and invented strange compounds. Whence come to the mouth more potent and diversified stimulation, greater perversions of sensibility, and larger influxes of blood; and, as a necessary consequence, more numerous and violent diseases. Such is the tribute

which man is compelled to pay, for his table indulgencies.

2. The indiscreet use of acids is a cause of the premature decay of the teeth. In the opininion of Cuvier, they exert their action on the gums, rather than the teeth; though it is certain, that some of them, as, for example, the sulphuric and oxalic, may act chemically upon the enamel, and decompose it.

3. Mechanical violence frequently occasions diseases of the teeth. We do not refer to fractures or dislocations, which may be the immediate effect; but to inflammation in the periosteum of the socket, which necessarily thickens the membrane, loosens the tooth, and ultimately works out its destruction.

4. Neglect of cleanliness is another cause. Foreign substances are often suffered to lodge in the mouth, and undergo decomposition, which can not fail to injure both the gums and teeth. When caries has taken place, or the enamel has been penetrated by the file, or is fractured by accidents, a want of cleanliness is particularly injurious.

5. Tobacco, not directly injurious to the teeth, is indirectly prejudicial, in two modes. First, those who use it are in general less attentive to cleanliness of the mouth, than those who do not. They too often obviate the impression of accumulated filth, by the impress of tobacco; a resort to which is more convenient than a resort to the brush. Secondly, the use of this narcotic poison, especially in early life, causes indigestion; and this, as we shall presently see, produces diseases of the teeth. We are aware, that some persons believe in the *preservative* power of tobacco; but the facts on which they rely, prove only, that it can mitigate or prevent the pain attendant on the decay of the teeth. Dyspeptic patients, moreover, have occasionally resorted, for the first time, to the use of this plant, when, from age, their digestion was about to improve, and the diseases of their teeth of course to abate; and they have been thus led to ascribe effects to it that

were in reality but the consequence of a cessation of their gastric disorders.

6. A salivation injures the teeth. It is quite common to see several of them loose, and occasionally picked out by the patient, during the mercurial disease. It is lamentable to observe with what *sang froid* a profuse salivation is excited and spoken of, by many physicians. We are decided advocates of calomel; but the cause of truth and humanity requires us to acknowledge, that when young in the profession, we administered that potent medicine, with less reserve than at present; and had then but too many opportunities, of witnessing its morbid effects upon the mouth.

7. Variations of atmospheric temperature and hot and cold drinks, manifestly occasion diseases of the teeth.—They all act by exciting inflammation, in the lining or the investing membrane of those parts, or in the periosteum of the jaws. The pains called by the people rheumatic, are generally of this kind. Hot and cold drinks in succession, exert themselves, perhaps, with more energy than changes of atmospheric temperature, but they are limited to the mouth; while the latter act on the whole surface of the body, as well as the organs of mastication, and may, therefore, be regarded as the more mischievous of the two.

8. Dyspepsia, as already intimated, may occasion diseases of the teeth; and in the United States, it is a fruitful source of their disorders. Indeed we are inclined to attribute the great frequency of dental maladies in this country, to the extraordinary prevalence of indigestion. To understand why morbid states of the digestive organs, so often excite diseases of the organs of mastication, we need only refer to the relations subsisting between their functions; and recollect, that when parts are united in function, they are liable to sympathise in disease—which is but disordered function. The period of life most obnoxious to dyspepsia, extends from the eighteenth or twentieth to the thirty-fifth or thirty-sixth year; and during that time, the teeth in general suffer more decay, than in all the preceding and subsequent portions of life. We

can recollect to have seen beautiful sets become extensively carious, and many of them require extraction, within a short time after the establishment of a violent state of indigestion. But this might be regarded as an extreme case; and we are happy to know that many dyspeptics escape so cruel a fate.

9. Fevers and other constitutional affections, frequently extend their influence to the teeth. On this point, we shall present the observations and sentiments of the author himself.

"All constitutional diseases, and such local maladies of the more important organs as affect the whole system, and through it individual parts, must be presumed to extend their morbid influence to the teeth as well as the gums.

"But upon further consideration it will also appear, that in consequence of the intimate sympathy subsisting between the teeth, supplied as they are with nerves of extreme sensibility, and with arteries at least not less irritable than arteries in other parts of the body, and the general system, that the diseases of the latter must be productive of more extensive effects upon the former, than upon other parts generally, especially when already affected by local disorder. This fact has been proved to me beyond any doubt by repeated observations, and long experience.

"During the presence of a constitutional disease, I have frequently observed that it has been accompanied by acute inflammation in the teeth, which not only extends to the blood vessels of their lining membrane, but also to their bony structure: at such times, a considerable change takes place in their appearance, accompanied by a corresponding change in the appearance of the gums. This can only be observed with sufficient accuracy in the sound teeth of such persons as have kept their teeth constantly clean, previously to the accession of the general diseases.

"It is difficult to describe, very distinctly, the different and very nice shades of appearances of the teeth and gums, under such circumstances, as they are only visible on inspection to the acute and experienced observer. The patient, however, can himself generally feel some certain changes in them, or some sensation depending upon debility, and possibly some soreness affecting them. An analogous sensation is experienced in the gums and surrounding parts, which usually exhibit either an unnatural degree of redness, or considerable paleness. The teeth lose that transparency which they have in a healthy state; and in chronic diseases they will be generally observed to assume a pale, or milky-bluish appearance, and become more or less opaque, while in acute fever they assume an inclination to a reddish hue.

"When the teeth had been previously in a perfectly healthy state, and when the other parts of the mouth had been free from local diseases,

I have observed these changes in them particularly evident under the circumstances of general disorder of the system: not only the gums, but also the teeth, have shewn particular symptoms of fever.

"After death from violent fever, I have found the blood in the blood vessels of the lining membrane of the teeth sometimes very dark; so that the external appearance of the teeth was quite red: and at other times, great parts of the bony structure had also turned considerably red, from the great injection of the blood, and from its coagulation in the minute vessels of these parts; which, by maceration during two or three months, I could not succeed wholly to extract.

"If the patient has recovered without having become the subject of much derangement in the functions of the digestive organs, the bony parts of the teeth have almost invariably recovered their natural health soon after the restoration of general health and strength, without having sustained any material injury, nor any other unpleasant consequences than a small deposit of tartar on their external surfaces. But if the general malady have been of long duration, if the use of much medicine have been found requisite, the stomach in the mean time having been much affected, although the teeth might in such a case be expected to recover their health with that of the general system, still there would remain some local causes or other of future diseases, from which they could be freed only by early attention.

"In imperfect sets of teeth, some of which had been affected by caries or other diseases, while the rest had been in a sound state in common with the parts adjacent, the same symptoms appeared in a much greater degree, under the influence of general derangement of the frame. The caries was proceeding much faster in those teeth which were previously affected than in the remaining healthy ones, in which there might be observed, either a predisposition to disease, or actual caries. The gums and sockets have been observed to become more or less morbidly affected, and much tartar had been deposited upon the teeth themselves.

"But in the mouth which had contained many decayed teeth, and the gums of which were already suffering from previous chronic idiophathic diseases before the general system was affected with an acute disorder, I observed all local maladies of the teeth and of their relative parts to have been much aggravated, the whole mouth to have become extremely tender and painful, and great destruction to be going on in all the relative parts, always accompanied by a great deposit of tartar on the teeth themselves. When a general cure of the acute fever had been effected, the local maladies of the mouth have generally remained, but for the most part, they have changed their character from an acute to a chronic state.

"These morbid changes are observed to be the results not only of general fever, but also of diseases of a topical nature, and it may be considered as a rule, that every local disease, no matter what, if it be presumed to affect the whole economy more or less, must be productive of morbid action also in the teeth and their relative parts." pp. 49—53.

10. Lastly, one disease of the mouth causes another. This important fact, too often overlooked by physicians, dentists, and patients, is highly appreciated by our ingenious author, and enters extensively into his pathological and therapeutic views. The remarks already made on the sympathetic propagation of diseases from the stomach to the mouth, might be applied, with no essential change, to the subordinate system of mastication. United in the performance of that function, by the Fifth pair of nerves, the different parts of the mouth have a reciprocal sympathy in disease; and hence nothing is more common than to see a disorder of one portion of this compound organ, followed by disease in some other. A similar effect results, moreover, from the mutual dependence of its different parts; not one of which can fail in its duty, without more or less injury to the rest.

These facts are of great practical value, as they teach us, that in attempting to cure diseases of the mouth, we should not hope for success, unless we remove the whole. If the smallest remnant be left unsubdued, it can scarcely fail to re-produce those which have been cured.

Dismissing the ætiology of diseases of the mouth, we come to speak of that which is still more interesting to the general practitioner, their morbid influence on other parts of the system. On this point, the testimony of our author is instructive, and we shall enrich our pages with copious extracts.

"By the combined morbid actions of all the above causes, the teeth are more and more rapidly destroyed, and go through the same destructive process, losing their vitality like those already dead; while the latter waste away by gradual and constant putrefaction or decomposition.

"Purulent and other morbid fluids, secreted by diseased affections of the teeth and gums, may well be presumed to find their way, in no trifling quantity, into the stomach, by which the digestion must be much impaired, and various symptomatic and idiopathic maladies of the different digestive organs produced: such as, for instance, dyspepsia, hysteria, hypochondriasis, &c.

"A considerable portion of this very obnoxious matter is dispersed in the system by the absorbents; and, when suppuration and putrefaction become general in the teeth, and all the other parts more or less connected with them, the breath is rendered so excessively offensive as to poison the

air as it passes to the lungs, which cannot fail materially to affect the blood, as well as those precious and delicate organs.

"Moreover, during all this time, the numerous primary diseases of the mouth and their irritating causes constantly attack the general health in a violent manner, not only by the several channels abovementioned, but more directly by the nervous system, sympathizing with the dental nerves, and the many fibres of the gums, &c.

"These nervous irritations are rendered the more dangerous by their sensible effects, because the dead roots and teeth irritate constantly the most irritable parts of the affected nerves, such as the ends or processes of the fifth pair of nerves, and those nervous fibres particularly related by contact to the great sympathetic nerve. From the supposed morbid state of the parts, these nervous processes are also in an actually diseased state, whilst likewise the whole system labors under the consequent symptomatic affections.

"Sometimes, either from a high state of general debility, or from considerable local relaxation, or from the morbid influence of both, so great a torpor may be produced in these parts, that the maladies of the teeth and gums may retain a chronic state for a very considerable time, and almost without interruption, and the parts may be so devoid of sensibility as to experience neither pain nor, comparatively, any other inconvenience.

"Should such a state be the effect of local debility, the parts are in great danger, and their morbid effects upon the system may be presumed to be much more considerable than under ordinary circumstances. Should, however, the local debility or torpid state be induced both by constitutional and local causes, the morbid influence upon the health would be most considerable; and no durable health could be restored without equal attention to the removal both of the general and local causes.

"Delicate constitutions not possessing sufficient general health and strength either to subdue the local diseases, or to support the constant changes, from a lingering or delicate state of health, to that of an acute malady, from that again back to chronic disease, from general to local, and from local to general affections, such as are called nervous and rheumatic diseases of every description, are thus gradually worn out. This event may take place sooner or later, according to circumstances, by which certain occasional causes of diseases are brought into contact with the permanent or constantly acting causes, so as to act simultaneously towards the destruction of health and life.

"Such is often the progress of these local diseases of the mouth, when produced by general and local natural influences only. Should, however, at any time, an injudicious dental treatment be added, such maladies will be much aggravated, and made more rapid and destructive, as well as very probably, more prematurely fatal in their termination.

"In such instances, some of the local diseases of the different parts of the mouth assume a character of the most distressing kind, sometimes

even of a malignant or cancerous nature, in consequence of which life is rendered a heavy burden, till a most painful and horrible death releases the poor patient from his sufferings.

"Still at any period of the diseases, so long as the general constitution is not quite worn out, and the local maladies are not in their own nature fatal, a perfect restoration to health may be obtained by judicious treatment.

"I do not mean to assert that the diseases of the teeth do most frequently proceed in such a fatal manner, but I am perfectly convinced that they do so much more frequently than is generally supposed, and too often without being detected. They act like slow poison, slow but sure: they will destroy either in a direct or indirect way; but towards destruction they certainly tend.

"In strong constitutions, which are little influenced by local diseases of the mouth, and in which the affected parts are not excited by general causes, or irritated by previous mal-treatment, the maladies of the teeth, and still more those of the neighboring parts, may proceed to a considerable extent, without being accompanied by very painful symptoms, either local or general, and even without much apparent inconvenience.

"In such instances, the diseases of the mouth are so slow and gradual, yet so certainly progressive in their chronic state, that sometimes not one part connected with the teeth is left in a perfectly sound state; until at length the whole catalogue of the diseases of those parts may be seen to meet in one and the same case; and in the same regularly slow and progressive manner in which these maladies have proceeded, they will also sometimes again decrease, and nature alone will effect a perfect cure by the removal of every tooth, and by the consequent annihilation and total absorption of the alveolar processes.

"In cases of this kind, the general health always maintains its predominance over local disease, and one diseased part becomes the means of effecting the destruction of another. The principal local causes of the diseases of the gums, periosteum, and alveoli, being decayed or dead teeth and tartar, and the principal causes of the maladies of the teeth themselves being the diseases of the gums and sockets, the diseases of the gums are cured by nature only, by the removal of all the teeth and tartar, and by the absorption of the gums and alveoli.

"I have seen many individuals in the United States of America, and some in my native country, as well as in England, who had lost or were losing their teeth in this manner.

"This progress of the diseases of the teeth and gums, will be most frequently observed in the more healthy of the lower and ignorant classes of society, whose teeth are generally left to nature, in consequence of which they are frequently suffering from neglect, but very seldom from artificial causes; for the nervous sensibility is, generally, much less in uneducated people, and the constitution less irritable, than in the enlightened and polite classes of society.

"In the male subject, diseased affections of the teeth proceed more frequently in this manner, than in the more delicate female constitution. This progress is observed also more at a later period of life than at an early age, for the density of the dental bones at a more advanced age being more and more on the increase, and the sensibility of the solid parts of the mouth being proportionally on the decrease, it very naturally follows, that the progress of these diseases generally must be slower and more regular, and the symptoms much milder, in old than in young persons.

"Hence, in tolerably good constitutions, and at advanced periods of life, cures are sometimes effected by nature alone, in the manner here alluded to. In these instances the symptoms and inconveniences accompanying the diseases are frequently so mild as not to be observed, and thus the individual loses all his teeth, and not unfrequently considers their total loss as the unavoidable effect of old age; an opinion, however, equally as improbable and erroneous as would be the belief that we were destined to lose our tongues, or any other essential part of our body from old age.

"It would, however, be very erroneous to infer from the great varieties and degrees of the morbid influences and symptoms incident to diseases of the teeth, and from the occasional opportunities which we have of seeing that nature now and then effects a cure of them after a long struggle, that such examples of natural cures should often present themselves. Like all other local affections, these diseases only differ in their greater or less severity, according to the more or less predominance which they are able to obtain over the whole constitution: and whilst they occasion rapid destruction of health and immediate death in some rare instances, they never fail to waste a greater of less portion of human health, of which, indeed, the least loss may be a sufficient cause, in combination with others, to shorten the period of human life.

"At the same time, it must not be forgotten that such a cure can never be accomplished by nature, until all the teeth are lost, one after another, from being destroyed, either by disease or putrefaction, or by a total absorption of their gums, periosteum, and sockets. This cure is, indeed, never effected without more or less pain and inconvenience during a period of from fifteen to twenty-five years, although the symptoms and inconveniences during much of that time may, from many circumstances, be rendered very supportable: whereas, by the judicious interposition of art, perfect cure might be effected, in every case of this kind, in a space of time never exceeding five or six, and frequently even in less than two months.

"After the loss of all his teeth, by the process here described, the patient feels emancipated from his afflictions, and enjoys much better health than for many years previously, and frequently he recognizes the real causes of the protracted disturbance of his health only after his actual recovery; whilst it is also not uncommon for persons, in the course of years,

to lose, in the manner above described, every tooth in their mouth, without ever suspecting the real cause of their disorder.

"In fact, the influences of decayed and dead teeth, and of the diseases of the gums and sockets upon the general animal economy, are ordinarily so little understood, and regarded so erroneously, and with so much prejudice, that such a transition from protracted disease to general health, not only surprises the happy individual himself, but also not unfrequently baffles the sagacity of his better informed medical attendant.

"This, however, will not be deemed surprising, if the difficulties of discovering these causes are duly considered. Idiopathic diseases, while they only affect parts of so limited a nature as the lining membrane of a tooth, are capable of almost overwhelming the entire system by nervous irritation, so as even to produce actual madness, but are, nevertheless, for the most part, to be detected only by dint of a most minute acquaintance with the pathology of the parts immediately concerned. See Dr. Rush's Medical Enquiries and Observations upon the Diseases of the Mind, p. 35.

"The difficulties here supposed, are owing to the great variety of circumstances accompanying the diseases of the teeth, viz: the different aspects which they assume; the manifold effects and symptoms produced by them; the comparatively small and hidden parts and surfaces which the idiopathic maladies occupy on one hand, and the greater or smaller distance, and the greater extent of the parts and their surfaces, which are symptomatically affected, on the other; the sudden changes of the symptomatic affections from one place to another; the frequent absence of pain, or the comparatively slight pain accompanying the idiophatic local malady, and the consequently greater pain accompanying the symptomatic affection; together with the frequent translations of the nervous and rheumatic pains from the parts primarily diseased, to those which are secondarily affected, and *vice versa;* all are of such a deceptive nature as to be not a little calculated to mislead any medical practitioner, who has not very just notions on this subject.

"To these deceptions, moreover, may justly be added the many erroneous prejudices, false theories, and mal-practices existing on this subject, and which are generally adopted and resorted to by dentists when consulted; as also the great difficulty of properly removing the idiopathic diseases, and their causes, in the present state of Dental Surgery; the misconceptions derived from unsuccessful treatment, and from the injurious effects so frequently produced upon the teeth by an injudicious application of the resources of the art.

"Nevertheless, I cannot refrain from expressing my firm conviction, that the important connexion subsisting between the teeth and their relative parts, on the one hand, and the general system on the other, and the exceedingly great influence, whether favorable or otherwise, of the former upon the latter, have not hitherto received so much attention on the part of physicians and surgeons, as they really deserve and justly claim.

"Would the more liberal members of the healing art determine their earnest attention to the diseases of the teeth as causes of diseases of the general system, I feel confident that it would contribute in no small degree to the extension of their professional powers.

"In those affections, which are generally classed under the list of nervous and rheumatic diseases, whether chronic or acute, the teeth, if in any way disordered, may always be suspected to be the principal causes.

"The immediate connexion of the teeth and the other parts of the mouth with the digestive organs and the lungs, renders it still more probable that the maladies of the teeth may very frequently constitute a considerable part of the exciting causes of primary and secondary derangements of these important parts; while it is also very evident that, in consequence of their close relationship with the brain, the delicate organs of the senses of hearing and of sight must very often be much impaired, and painfully affected during diseased states of the teeth, gums, alveoli, maxillary bones, and their investing membrane, the periosteum." pp. 97—107.

Every observing physician must have met with cases, which go to confirm what is here stated. The subject is one replete with interest, and we cannot too strongly recommend it to the consideration of our brethren in the United States, where diseases of the mouth are of such frequent occurrence, and we are sorry to add, so imperfectly understood, both in their nature and consequences.

The seventh chapter of our author's work is on the general principles of the "*Treatment of the diseases of the teeth, and their relative parts,*" and although we have just made an extended extract, we shall offer no apology for presenting our readers with another of equal length.

"If the fact is acknowledged, which I believe cannot be denied, that the teeth, by reason of their dense and compact structure, and peculiar functions, are almost entirely incapable of recovering from any primary disease, by their own natural curative power; and that the least original disorder in them, must sooner or later become a cause of total destruction of the teeth affected, and also become a cause of other symptomatic and idiopathic maladies of the other teeth, and parts nearly connected with them, in the absence of proper treatment; it is also a fact, not less supported by experience, that, on account of their peculiar structure, they are admirably calculated to receive the most permanent benefit from a just and skilful application of the resources of art; and that, in almost every case, perfect health can be restored, even in the most advanced or desperate state of disease.

"It is, however, particularly worthy of notice, that, although nature has originally supplied the teeth with that peculiar structure, which so well enables them to undergo a successful surgical treatment, when in a diseased state, it has done but little to favor the success of such a treatment, in affording any active curative power in their bony structure, equally possessed by every other part of the living body.

"It is, therefore, evident, that of all surgical operations, those affecting the teeth are least assisted by the sanative power of nature, and hence are most dependent for their success on the judgment and skill of the surgeon; and, though they are the more certain of complete and durable success, when properly executed, they are at the same time and for the same reason more difficult to perform, and, what is not less worthy of notice, they are much more injurious and destructive in their effects, when unskilfully managed, not only to the teeth themselves, but also to those parts immediately related, and sympathizing with them.

"If it it true that the teeth, when completed as to their formation and in sound health, are the hardest and most durable parts of the whole human system, and more admirably calculated to resist the numerous morbid influences to which they are subjected, than any other bone of the entire frame; it is also a truth, proved to me by my own observation and long experience, that the same qualification, which is possessed by naturally sound teeth, will be possessed, almost to the same extent, by such teeth as have been restored to perfect health by a judicious and complete surgical treatment; and it is not less true that, in most instances, these restored teeth may be preserved almost as well and as permanently as those naturally sound.

"Such cases, however, as shall be considered to have received this perfect restorative and preventive treatment, must have been treated in the following manner, and the following object must have been accomplished.

"All the teeth and gums must have been restored to perfect health, by being relieved, first, from all symptomatic inflammation or affection, in their lining membrane and bony structure; and secondly, from all the idiopathic diseases affecting them. These are objects which can only be obtained by a due consideration of the state of the general system, and a proper cure of all the diseases and irregularities of the gums, periosteum, sockets and maxillary bones, and by such treatment and operations as shall completely eradicate the most immediately exciting causes of these diseases, the caries, or other maladies of the bony structure of the teeth, &c. These parts must also have been rendered permanently sound, and a relapse of the disease prevented, as well by remedying the defects, by filling with gold the cavities produced in the bony structure of the teeth, by caries or operations, so as to restore them, as near as possible, to their natural strength or firmness, as by securing the parts through these means, and their restoration to their natural and regular form, from the influence of all morbid causes, and by having produced every possible facility for

applying the necessary preventive means against all future external morbific, chemical, or mechanical influences.

"To accomplish all these indications, the dentist has many very considerable difficulties to overcome.

"The difficulties almost invariably accompanying a perfect cure of the diseases of the teeth and their relative parts, arise from their being generally so complicated as to render their detection exceedingly difficult; in consequence of which they are frequently disregarded by the patient until they have arrived at some of their latest and most untoward stages.

"It is indeed very unusual to meet with only one disease at a time affecting the teeth of one individual; whereas a combination of many diseases acting simultaneously upon the teeth, in such a variety of ways, as to require the most opposite surgical treatment, is what we generally meet with. I have not unfrequently found a considerable number of diseases in the mouths of persons, who were so much deceived as to believe that their teeth were perfectly sound, and had been declared so to be not long before, even by their dentists.

"The constant changes to which the formation and structure of the teeth, alveoli, and maxillary bones are subjected, during the period of the first and second dentitions, are also important causes of difficulty in Dental Surgery. These changes are very considerable, during the first five and twenty years, and a careful consideration of them becomes an object as important to a judicious treatment of these parts, as it is difficult and intricate.

"Mr. Hunter, as his introduction to the first part of his Natural History of the Human Teeth proves, was not uninformed of these difficulties, and expresses himself with great force and distinctness upon the subject.

"It frequently happens that in the same subject, the gums and the periosteum are affected with inflammatory and suppurating diseases, the sockets and maxillary bones with inflammation, suppuration, and mortification; while, at the same time, a great number of the teeth are suffering from various disorders in their bony structure, and from chronic and acute inflammation in their lining membranes. These diseases may be excited simultaneously by a considerable number of dead and putrified roots and teeth, by tartar, or by many other local and general causes. Sometimes certain teeth may suffer from many local diseases at the same time, and yet it may be very possible, and even very necessary, to attempt their preservation. I have frequently seen such teeth locally affected in five or seven different places, while each individual disease has required a separate operation; and I have, by a careful treatment, succeeded in preserving such teeth for a long time.

"The difficulty of deciding where to begin, in such instances, and where to end, is really very great, and not unfrequently very embarrassing, even to the experienced surgeon.

"The principal curative means in the possession of the dentist are operations, many of which can not be performed without producing considerable irritation; and hence, if they are performed at an unseasonable period, instead of curing the malady for which they are instituted, they serve to aggravate the disease, and to produce the most injurious effects, not only upon the teeth, but also upon the parts contiguous to them.

"To effect a perfect restoration of the diseased mouth to a healthy state, almost every disease requires a different treatment, and it is often necessary to perform a great number of irritating operations, before a perfect cure of all the parts affected can be accomplished. The greatest judgment is requisite, not only in proceeding in the best order with the necessary operations and remedies, but also in the skilful performance of each individual operation.

"In such complicated cases, it is particularly necessary that the dentist should first inform himself of the several causes, and the manner in which they have operated, whether quickly or slowly, in destroying the parts; for, in the removal of these causes, which is not to be effected without successive operations, the ultimate success of the whole treatment almost entirely depends upon the skilful manner and judicious order in which such operations are performed.

"The removal of the local causes is generally attended with more or less local irritation and pain; and, should this irritation be greater than the parts, or the system in general, can support at the time, injury, rather than benefit will be occasioned by the operation, and new causes of diseases will thus be added to those already existing.

"But if, on the other hand, in very complicated cases, those morbid causes, which act together upon the same parts, and which may be considered as one class or set of causes, are not removed at the same time, or at least in a short space of time, the good effect of the partial treatment is frequently frustrated, either by the loss of time, or by the irritation produced by the incomplete operations, and by the increased morbid action of the remaining causes.

"The great object for the best plan of cure is not to fall into any extreme, but to avoid equally dangerous precipitation and delay.

"To attain this view, it should be an unexceptionable rule, to remove in the first place such exciting causes as produce the most extensive morbid influences upon the teeth and their relative parts, and that the remedies employed for that purpose should be such as are least likely to irritate, and most calculated to remove every symptomatic inflammation in the teeth. In the second place, those causes which act more particularly upon them, should be subjected to surgical treatment.

"Of these exciting causes, none are productive of more extensive symptomatic inflammation in the teeth, gums, &c.; or, indeed, more destructive to the constitution than acute constitutional diseases; and few local inflammations occasion, perhaps, greater symptomatic derangements of the whole system and of the teeth generally, than acute inflam-

mations of the gums, sockets, periosteum, and maxillary bones, and particularly of the lining membrane of the teeth; consequently all these acute diseases, either general or local, should be first considered in the treatment, in order ultimately to secure the restoration of the health, as well of the general system as of the teeth and mouth.

"The next consideration should be the removal of the chronic symptomatic affections of the teeth and the parts connected with them, by a proper treatment of all chronic idiopathic maladies of the gums, periosteum, alveoli, and maxillary bones, which have the same hurtful effect upon the system in general, as upon the parts locally connected with those affected.

"The proximate causes and the diseases of the teeth, such as caries in its first stages, irregularities and deformities of their bony structure, &c. as they produce the least symptomic affection upon the teeth and other parts, should be the last objects of treatment; for instance, as it regards those teeth which are the chief object of preservation in the treatment, no operation should be performed upon them until they are freed from all symptomatic inflammation, and this, of course, can not be the case while the parts or the constitution in general are suffering from any primary disorder.

"Of this the following example may serve as a more particular explanation.

"An individual in good health, whose gums and other parts of his mouth are healthy, and the teeth perfectly free from tartar, and every other cause of irritation likely to produce inflammation in the parts just mentioned, places himself under the care of a dentist, for the cure of some teeth affected by certain local diseases, such as caries, for instance. In this case these local idiopathic diseases of the teeth being the only object of treatment, the dentist's attention will of course be directed to their immediate removal by the most direct and effectual means.

"If the same patient were troubled not only with diseases of the teeth themselves, but also with diseased gums; if, for instance, the gums were found in a state of inflammation, or suppuration from the irritation of tartar, or from any other cause, or in case of any disease in the periosteum, alveolar processes, or jaw bones, being superadded, an immediate operative treatment upon the teeth would be highly improper. The teeth in such cases, as I have already observed, are always more or less in a state of symptomatic inflammation of their bony structure, on account of their sympathy with the affected parts, and consequently are not in sufficient health for enduring any operation upon themselves until such inflammation shall have been removed. Immediate preservative operations upon the teeth would, indeed, greatly aggravate the symptomatic inflammation, and produce such idiopathic diseases in the bony structure as would, most probably, sooner or later, occasion the destruction of the teeth. It is worthy of remark, that every operation intended for the cure of the local maladies of the teeth, undertaken at such a time, such as

filing, cutting, and stopping, would be very painful; whereas, if such operations be performed at the proper time, they would occasion either very little or no pain at all. Moreover, there can be no need of any immediate operations upon the teeth, because the diseases of the gums and other contiguous parts are more extensively destructive to the health of the teeth, and more active in their destructive operations, than the maladies of the teeth themselves, as has been already explained; and any treatment of the teeth would be of no utility, if the gums and other contiguous parts, intended for their support, were not also restored to perfect health. The first object, therefore, of the dentist, should be the removal of the most active and extensive causes, viz. the diseases of the parts immediately connected with the teeth.

"Again, should the same individual be laboring under any acute local inflammation, such as, swelling of the face or gums, the acute state of which may be frequently brought on by a cold or general disorder, exciting the primary local disease of the gums or alveoli, such as fistulous abscesses of the gums and sockets, or tooth-ache; the first object of attention should be the cure of acute disease, and the other local diseases of the gums, and other parts should be left to themselves, until the acute inflammation shall have been completely subdued. When dead roots and teeth are the cause of such gum-boils or swellings, which is almost invariably the case, they should be extracted without the loss of time, unless particular circumstances should render a short delay necessary. When the lining membrane of the tooth is inflamed, the first object should be to restore a healthy action to the parts; but if such inflammation be owing to causes which can not be remedied, as, for instance, a state of suppuration, the only proper and most speedy, as well as least painful process, is the immediate removal of the tooth or teeth thus affected.

"If the patient should be laboring under general acute disease, *i. e.* fever of any kind, such a malady would require the first attention. At the same time, a judicious attention to the local acute diseases, with a view to produce immediate relief from pain, together with the removal of such local causes as in a direct manner aggravate the general disease, will greatly facilitate the ultimate cure, and should always be resorted to without delay. The immediate removal, for instance, of such teeth as actually produce tooth-ache, dead roots and teeth, which cause from their local irritation acute inflammation, or suppuration and mortification, as well as much pain in the surrounding parts; and also of such mechanical and chemical causes as augment, by their irritation, the different maladies of the mouth, such as, injudiciously inserted artificial teeth, irritating ligatures and stoppings, which, from their pressure upon the nerve, occasion great pain, will at once contribute to relieve the patient of considerable pain, whilst, probably, a part of the exciting causes of the general malady will be eradicated. But with regard to the other chronic local diseases of the mouth and teeth, I should observe, that no

other than a palliative cure should be attempted, so long as the patient is laboring under general ill health.

"The same treatment should be observed where such general or local chronic disorders are present, as from their severity, or the excess of debility produced by them upon the system, oblige the patient to confine himself to his bed or room; for the effect of such chronic disorders is not materially different from that of acute diseases; the mouth and its component parts, under such circumstances, being always in a considerable degree of symptomatic inflammation, or in a very tender and irritable state." pp. 122—133.

D.

[TO BE CONCLUDED IN THE NEXT NUMBER.]

## SELECTED INTELLIGENCE AND NOTICES.

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1. *On making Anatomical Preparations in Hot Climates.*

Numbers of our readers will recollect the bar which has been put in the way of the study of morbid and healthy anatomy by the heat of southern climates; a difficulty which has been particularly felt in the United States, where it has often crippled the exertions of the most enthusiastic and well instructed physicians. This is the more to be regretted, as, owing to the previous operation of the same cause, the diseases of hot climates, so important to all commercial nations, and to none more so than to the United States, have never been sufficiently studied in dissection. Numerous autopsies are to be found; but the reflected light which is obtained by the competition of emulous investigators, and by reiterated inquiry, cannot be said to have thrown its lustre on those various and terrific maladies.

Dr. John Davy believes, (Ed. Med. and Surg. Journal, for April,) that preparations may be made, by using proper precautions, in the hottest parts of the world. "The average maximum of the highest temperature in the hottest seasons, even in intertropical climates, is from 80° to 90° Fahrenheit;" and at this elevation of the thermometer, the changes which take place in animal matter, do not differ in nature from those which occur in more temperate regions, but only in degree, taking place with twice or thrice the celerity. To meet this rapidity of decomposing causes, Dr. Davy proposes an equal rapidity in dissection and preparation, together with neatness, and an entire finish of the preparation at once. He strongly urges the importance of completing the separation at the first effort, as a means of preventing fœtor, decay, deformity, and disgust at returning to it. When unfinished preparations are thrown into jars together, or crammed into vials too small for them, besides the additional chance of decomposition thereby incurred, they lose their shape, and become contracted and wrinkled. Experience has shown him, too, that when articles are laid by for future

completion,—this from postponement becomes a disgusting task, and they are finally thrown away.

Dr. Davy macerates all articles which do not contain much fluid, in strong spirits, immediately on their removal from the body, and not in water. He states, that inflamed mucous membranes, thus treated, will retain their red colour, the blood coagulating in the vessels. Parts from which blood or copious mucous matters must be removed, are to be soaked in water, renewed very frequently, or in spirit and water, or saturated brine. Dr. D. finds that a navy surgeon, or other medical man in travelling engagements, may, notwithstanding the above remarks, collect a large number of morbid preparations in one or two large jars; but they must be displayed and arranged exactly as they are to remain on the shelf, and each attached to a float of cork; or, if lighter than spirit, to a small piece of lead, while crowding is prevented by using threads of such different lengths, as will leave each article sufficient room to preserve its shape. In this way Dr. Davy evidently means that they may be sent beyond sea. The jar is to be carefully stopped, without any connexion between the preparations and the neck of the vessel; and the cork or ground stopper is to be tied over with a piece of bladder, oiled, and to be carefully preserved, not only from rats, but from cock-roaches, which will devour the membrane thus used. Dry preparations require no other precaution than entire desiccation, and repeated varnishing; but the anatomist is very apt to overrate the drying power of a tropical atmosphere. If the wind come over an extent of land, and assume the well known character of the Harmattan, exposure to it will be sufficient; but sea breezes are commonly loaded with moisture, and preparations will not dry in them, but decay rapidly. In this case they should be exposed to the rays of the sun, or to a fire. After varnishing, it is necessary to wrap them in paper, dried with equal care, and to enclose them in a tight box, to exclude insects.—*N. Amer. Med. and Surg. Journal, No.* 7.

## 2. *Erysipelas.*

Mr. Arnott, of London, has inserted a paper in the London Medical and Physical Journal, in which he conceives that he has given good grounds for the following proposals and inferences·

1. That the term erysipelas should be restricted to that febrile affection of the system, accompanied with inflammation of the integuments of the *face*, to which it has most usually been applied; and that, until we have better evidence for so doing, the expressions erysipelas and erysipelatous should not be applied to affections of the skin in other parts of the body.

2. That the term erysipelas phlegmonodes should be abandoned as unnecessary, as well as inaccurate, and applied to dissimilar morbid conditions.

3. That inflammation of the cutis of the extremities and trunk, it matters not from what cause, or however extensive, should be designated simply as such, to the exclusion of the terms erysipelas and erythema, as improper and unnecessary.

4. That inflammation of the cellular substance should be described as such, and by name; and, as no necessity exists for the addition of the term "diffuse," so long as we possess the adjective "extensive," that the employment of the former word should be abandoned.

Lastly. That aponeurotic and subaponeurotic inflammation should likewise be withdrawn from its erysipelatous disguise, and appear in its own proper character and name.

To support these propositions, which are, in fact, the expression of a set of pathological opinions, Mr. A. inserts the particulars of three cases.

The mother of a family died of inflammation of the pharynx, terminating in mortification; and the husband and daughter were subsequently affected with erysipelas of the face, and inflammation of the throat.

From these narratives, our author proceeds to an analysis of different publications on these subjects by Drs. Stevenson, Nelson, Duncan, Wells, Dickson and Butler, and Messrs Lawrence and Blackett; in which he shows, we think successfully, as indeed has already been the inference to which many have inclined from the perusal of a part of their works, that diseased processes of very different natures have been included under the appellation of erysipelas; and that it is better to name each of them *physiologically*, as many moderns would say, according to their situation and real nature, rather than by an abstract name, implying a common but ill defined existence in them. We did

not suppose, however, till we recently learned it, that any one confounded simple inflammation of a fascia, or of the cellular substance, as after bleeding, with erysipelas; and only imagined that it was common to neglect, or consider as a mere extension, complication, or constituent part of the disease, the occurrence of the latter which already presented a vivid redness on the surface. Again, why the term erysipelas should be confined to the affection of the face, and to one co-existent with sore throat, we see no sufficient reason. Certainly, we have often seen it arise from an internal cause, extend beyond the face, and exist without any sore throat. Mr. ARNOTT also argues in favour of a contagious quality in this affection; and he has undoubtedly furnished us with several groups of cases, including his own, and those of authors, in which one seemed to follow the other in families. Whether this is to be regarded as evidence of contagion, (a mode of reasoning not uncommon among the English,) or whether, in a disease which so constantly occurs without any intercourse among the sufferers by it, it may be referred to a similarity of the unknown morbid causes acting on the individuals of a family, as in the case of the Plymouth dock-yard disease, must be left to the judgment of the reader.

*Ibid.*

### 3. *Excision of Carious Joints.*

In the fourth volume of the Dublin Hospital Reports, which we propose to analyze in our next number, there is, among many valuable papers, one by Mr. PHILIP CRAMPTON, on the Excision of Carious Joints, as originally recommended and practised, it is said almost simultaneously, by Mr. PARK of Liverpool, and M. MOREAU pere, de Vas le duc; which operation, although *reported* by surgeons as successful, has been neglected for many years. Mr. PARK's first attempt was in July, 1781. In 1782, MOREAU operated in France, without, say his compatriots, any knowledge of PARK's success. The degree of success attending these gentlemen, and especially the numerous examples more recently recorded, of the successful removal of the extremities of the long bones in compound dislocations, has induced Mr. CRAMPTON to test Mr. PARK's practice by renewed trials on the human subject.

*Case 1st*, was a man aged twenty-three, in whom "the scrophulous aspect was distinctly marked; and who was sent to the General Hospital for a scrophulous white swelling of the right elbow joint, of ten months' standing. The swelling extended at least a hand's breadth above and below the joint, with suppuration, deep ulceration, exposed caries of the bone, and constitution much impaired by hectic fever, sweats, &c. The operation of excision was performed on the 4th of Feb. 1823.

"The patient was placed (as recommended by M. Moreau) upon his belly, on a table covered with a mattress, and pillows so arranged as to make his posture as little inconvenient as possible; the diseased arm hung over the edge of the table, presenting its posterior and inner surface to the operator; the brachial artery being compressed by an assistant, an incision was now made along the spine of the inner condyle, commencing about four inches above, and terminating about two inches below its tuberosity. This incision passed through the centre of the ulceration, and laid bare the ulnar nerve, which was carefully raised from its groove, and drawn to the inner side of the incision.* A similar incision, parallel to the first, was made on the outer side of the humerus, and then a transverse section, which cut through the tendon of the triceps muscle, immediately above its insertion into the olecranon, connected the two longitudinal incisions, so that the wound represented pretty accurately the letter H; the lateral incisions, however, being slightly incurvated, so as to follow the bend which the fore-arm made with the arm. The upper flap, consisting of the lower extremity of the triceps muscle, the thickened and diseased cellular substance, and integuments, was raised from the flat surface of the humerus, to which it had a very slight attachment; the lower flap was separated in the same manner, so as to lay bare the upper extremity of the ulna and radius; the scalpel laid on its flat, was now pushed between the flexor muscles and the bone, on its anterior surface, at the distance of three inches above the tuberosity of the inner condyle, and retained in this situation by an assistant. The

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* "From neglecting this precaution in M. Moreau's case, the ulnar nerve was cut across, and the ring and little finger were deprived of the powers of motion."

saw was then applied, and the bone was divided immediately over the flat surface of the knife, which served as a protection to the muscles beneath. The separated portion of the humerus was now raised with the utmost ease, by the finger and thumb of the left hand, while the capsular and lateral ligaments, degenerated to the state of a lax cellular substance, were separated, by running the knife round the condyles, keeping the edge as closely as possible to the bone. The lower extremity of the humerus being removed, the articulating surfaces of the radius and ulna were completely exposed; but, with the exception of the cartilage which covers the olecranon, (which was partially eroded,) every thing appeared sound. The olecranon was now removed, and the wound was sponged out; as there was no bleeding which rendered it necessary to have recourse to a ligature, the flaps were laid down, and secured to each other by four points of suture. The fore-arm was placed at a right angle with the arm; the wound was covered with pledgets of lint, wetted with spirits and water, and the man laid in bed, with the arm supported on a suitable pillow.

"He passed the night remarkably well. Suppuration, attended with a very slight degree of symptomatic fever, set in on the fourth day; but, so favorable did every thing proceed, that on the ninth day he sat up in his chair, the arm being supported in a tin case, which I had constructed for the purpose. The wound, however, was slow in healing, no doubt from the bad constitution of the patient; I sent him, therefore, to the sea side five weeks after the operation, and there he recovered so rapidly, that on the following week he walked into town to see me, a distance of nearly five miles. He continued to reside at the sea side for three months, walking into town and returning on the same day once a week. On the 18th of September, he returned to the King's Infirmary, in order to pass the board of general officers at the Royal Hospital, for his discharge. At this time, the wound, with the exception of a small superficial ulceration about the place which had been occupied by the inner condyle, was completely closed. The arm, when allowed to hang by the side, retained nearly a semi-flexed position; but, by a voluntary effort, he was able to give a slight degree of flexion to the fore-arm, so as to lesson the angle which it formed with the arm. He had

the use of the fingers, so as to be able to use his knife and spoon, and on the 27th of November, 1823, *he signed his own discharge with the right hand.*"

This patient was soon after affected with a chronic or scrofulous abscess of large size in the loins, which manifests the depraved state of the system, which, nevertheless, could endure so severe an operation.

*Case 2nd. Excision of the knee joint.*—Susan Conolly, aged twenty-three, of a strumous habit, a former sufferer from scrofulous diseases, and of an emaciated appearance, has a white swelling of the knee joint, of about twelve months duration, with pain, ulceration, caries, hectic, &c. &c. Joint permanently flexed. On the 7th of May, 1823, the operation was performed in the following manner.

"An incision, commencing about three inches above the outer condyle, and a little below the axis of the femur, was continued to about an inch below the head of the fibula. The acute angle, which the leg formed with the thigh, necessarily gave to this incision the form of a cresent. In making the incision, the knife was carried down to the bone; a similar incision was made on the inner side of the joint. The lateral incisions were united by a transverse cut carried below the patella. The flap, thus formed, was raised by a rapid dissection, and the cavity of the joint was completely exposed: for the extent of more than three inches above the condyles, the femur was without periosteum, the purulent matter lying in contact with the naked bone. At the point where the periosteum appeared to be united with the bone, the saw was applied, and the bone was divided, the soft parts being protected by a spatula which was passed between the muscles and the bone. The separated portion of the femur was now dissected out, and so slight were its connexions with the soft parts, that this part of the operation, which I expected would have been attended with some difficulty, was effected with the greatest ease. The articulating surface of the tibia was now fully exposed; it was totally deprived of cartilage, and was in a state of caries. By means of a strong and short knife, such as is used by shoe-makers, I was enabled to pare away about half an inch of the head of the tibia, the cancelli of which were loaded with a lardaceous matter, and with pus.

"The cavity of this great wound was now sponged out; when, upon minutely examining the cut surface of the femur, I found that the cancelli were diseased, and filled with pus, and that posteriorly the periosteum was detached from the bone. I therefore sawed off about an inch and a quarter more of the femur. On placing the extremities of the femur and tibia in contact, the flap, containing the patella, was found to be about three inches too long; and as the patella itself was totally deprived of its cartilage, and in a state of caries, the exceeding portion of the flap, including the patella, was removed by a transverse incision. No artery was divided which required the application of a ligature. The flap was retained in its position by two points of the interrupted suture, and compresses, wetted in spirits and water, were laid over the wound. The limb was now placed in position in one of ASSELLINI's "carrying splints," which had previously been carefully adapted to the size and length of the limb; it extended from above the trochanter major on the outside, and from the ramus of the pubis on the inside, to about four inches below the foot; it was supplied with a sole piece, which supported the foot, and was carefully padded with a mixture of baked hair and wool.

"The woman bore the operation, which was by no means tedious, with great fortitude; and indeed, when it is considered that very little muscular structure, and no large nerves or blood vessels were divided, it is probable that the pain was much less than is attendant upon an amputation of the thigh. However this may be, it is certain that the operation was succeeded by but little constitutional disturbance; and, to the great surprise of every one who witnessed the progress of the case, this great wound united by the first intention, and was healed in less than three weeks."

The patient continued to improve until the 12th of September, when she had an attack of erysipelas, at that time epidemic, followed by suppuration in the ham for three or four weeks, when it healed. Her health again improved. In November, another erysipelatous abscess reduced her, and two or three additional attacks of this kind diminished her strength. No degree of union had ensued between the bones, even by the 27th of June, 1824, when she was discharged in good health.

In the winter of 1825 and 1826, she was re-admitted into the hospital in a wretched state of health, with hæmoptoe, purulent expectoration, and other phthisical symptoms, and a slight discharge at the fistulous opening in the ham. There was a general thickening about the joint. Her strength was again restored by suitable measures, and in May, 1826, she returned to the country; but soon after, in July, died, three years and two months after the operation.

Mr. C. thinks, that the want of bony union in this case, arose from the necrosed state of the extremity of the femur, which was found denuded of periosteum, and its cellular structure filled with pus; from the diseased state of the patient, evinced by her previous scrofulous ulcerations, and her phthisical symptoms Hence he did not hesitate to repeat the operation on another individual.

*Case 3rd.* Anne Lynch, æt. twenty-two, a strong good looking country girl, was admitted into Meath Hospital on the 3d of May, 1823. No peculiar character of a strumous habit was evinced.

"About four years ago, she was seized with a sudden and severe pain in the right arm. The pain soon left the arm, and settled in the right knee; which, from that time, continued to be more or less affected with severe pain, principally confined to the inner condyle. The pain was much increased by pressure on either condyle, by the slightest motion, and by the heat of the bed at night. The joint became perfectly stiff, and a good deal contracted, so that she could only touch the ground with her toe, when standing on the left leg; and the swelling, which, for the first few months was inconsiderable, gradually increased, and is now of a very great size, globular in its form, elastic to the touch, of a dusky red color towards the inner side, and the surface intersected by numerous and large blue veins. She described the pain as being excruciating, particularly at night time. Within the last two months symptoms of hectic fever have manifested themselves, but upon the whole her appearance is not very unhealthy. She has lost but little flesh; and the treatment, both local and constitutional, to which she has been subjected since her admission into the hospital, has abated the pain, and improved her general health.

"On the 4th of August, the operation was performed as in the case of Conolly, with this difference, that the poor girl, who, in

coming into the operating room, exhibited the greatest fortitude, and even cheerfulness, on the instant that the knife was applied to the skin, became so ungovernable, that four strong assistants could, with the utmost difficulty, retain her upon the table. This necessarily prolonged the operation, and no doubt very much increased its severity. The removal of the divided extremity of the femur, which, in the case of Conolly, was effected with the utmost ease, in perhaps less than a minute, was here rendered a work of infinite difficulty and danger; as when the knife was passing between the poplitœal artery and the bone, and actually in contact with the former, no entreaty could induce the poor girl, whom terror seemed to have deprived of her reason, to remain for one moment at rest; she struggled so violently, with both limbs, that it was with a degree of labor and anxiety, such as I had never before experienced, that I at length succeeded in passing the edge of the knife round the condyles posteriorly, and thus detaching the divided extremity of the femur. The patella, which was carious, was removed with the lower portion of the flap, as in the case of Conolly, but the articulating cartilage of the tibia appeared to be sound. I pared away the greater part of it, however, and removed the semilunar cartilages, of which only the inner one exhibited any marks of disease.

"The treatment was conducted in all respects, as in the case of Conolly, with this difference, that I was obliged to resort to a variety of contrivances, to keep the limb in position. The same unmanageable disposition, which caused so much embarrassment during the operation, greatly interfered with her recovery. Nothing could induce her to remain for one moment in any position, which she found was attended with inconvenience; the consequence of these constant changes of position was, that the extremity of the femur was often protruded through the wound. Notwithstanding all this, and the occurrence of a large sloughy sore on the buttock, in consequence of an insufficient attention, upon her part, to cleanliness, her general health was but little impaired: a small exfoliation took place from the extremity of the femur, and in about two months she was removed from her bed to a chair. In about four weeks after the exfoliation of the femur, the wound was completely healed, and the limb had acquired a considerable degree of firmness. About six months af-

ter the operation, the femur and tibia were consolidated by a firm bony union; and the woman, though timid beyond all example, began to lay her foot gently to the ground, supporting the weight of her body, however, on crutches. She now went to the country, and in the month of October, 1824, I received a letter from my friend and pupil, Mr. Rynd, of which the following is an extract:—"Your old patient, Anne Lynch, *walked* from Kilcock to Johnstown house, (a distance of nearly five miles,) to see me this morning. She is in excellent health, and the limb is perfectly firm, though bowed outwards." Anne Lynch has been frequently in Dublin since that period, and has presented herself for examination at most of the hospitals. She is now in town; and I have this day, November 3, 1826, examined the limb, and find that the femur and tibia are firmly consolidated: the leg and thigh are not in the slightest degree wasted, but the limb is considerably bowed outwards. She wears a shoe with a cork sole, four inches thick, and, to use her own expression, 'is able to stand or walk the length of a day.'"

In repeating the operation of excision of the knee joint, Mr. C. would operate rather differently. From repeated trials, he is satisfied, that he can operate most safely and rapidly, by separating the condyles from all their attachments, previously to sawing the bone. He proposes to raise the flap of the patella upwards, and to divide *all* the ligaments connecting the femur with the tibia, by carrying the knife round the condyles close to the bone: then the tibia can easily be pushed backwards, and the projecting condyles removed.

*Ibid.*

## 4. *Sir Astley Cooper's Observations on the Diseases of the Nail and Unguel Gland.*

"The nail sometimes grows broader than it ought, and it then produces ulceration by the pressure of its edge, which is followed by an irritable and fungous granulation. As this state arises from the breadth of the nail and its consequent pressure, it sometimes, continues for months, or even for years; yet it will yield to proper treatment in two or three weeks. The common mode of relief consists in cutting a notch in the centre of the nail; in scraping its extremity thin; in putting it frequently in warm wa-

ter, and in putting a piece of lint under its projecting edge: but this mode often fails in producing a cure, and frequently is only a temporary relief. In obstinate and difficult cases of this unnatural growth of the nail, I have for thirty-five years, recommended and practised the plan of cutting away the edge of the nail with scissors, from its extremity to its root; by which a cure is often produced in a few days, and in the worst cases in two or three weeks. A poultice only is afterwards required.

"In diseased states of the constitution, the unguel gland, the secreting surface which produces the nail, gets into a morbid state, and, instead of a healthy nail being formed, it throws out one which is black, everted, unadherent, and which so irritates the vascular surfaces as to produce an irritable sloughing, and very painful sore, which renders the patient lame, so as to prevent his gaining his daily bread. As this is a constitutional as well as local disease, it becomes necessary to employ constitutional and local means of treatment. My usual plan is to give a grain of calomel, with a grain of opium, night and morning, with the decoctum sarsaparillæ compositum; and to apply the liquor calcis ʒiv with calomel ʒj. by means of lint with oiled silk over it. This plan often succeeds; and if it does not, it destroys the predisposition to the disease.

"After giving these constitutional remedies, if the sore does not heal, I have sometimes applied a blister to bring off the nail, and alter the action of the ulcer. But in hospital practice, where persons are anxious to return to their labour, and to have their disease quickly and effectually removed, I have always dissected away the secreting surface which produces the nail, and prevented the possibility of a recurrence of the disease."—*Lond. Med. and Phys. Jour. April, 1827, as quoted by Phil. Jour. Med. and Phys. Scien. No.* 23.

5. Mr. Lisfranc *on Ulcers, simple and varicose.*

"The distinguished surgeon of La Pitié has lately reported, through the medium of his pupil, Mr. Klimatis, an interesting memoir on ulcers, more especially of the lower extremities. Mr. Lisfranc does not accord in sentiment with those who attribute the frequency of ulcers on the legs to weakness of the vital powers in those parts. He places the cause of this affection to the account of 'inflammatory irritation,' determined by remora of

blood in the saphena vein, which vessel presents between the malleolus and head of the tibia in most instances no valvular apparatus. When any valves are found they are never seen between the malleolus internus and the calf of the leg. 'It is precisely in this last place that the solution of continuity in question most frequently manifests itself.' The reason is, he thinks, the difficulty which the blood encounters, in this place, in its return against gravity, unassisted by valves. The stasis of the venous blood becomes an irritant, and induces an inflammatory condition, which causes and keeps up the ulceration. The success which attends ligature of the saphena vein, in ulcers of the leg, irremediable by other means, is, he observes, an incontrovertible proof of the truth of his theory. The means employed by the partizans of atony and debility, furnish auxiliary proofs—as the horizontal posture, quietude, compression.

"These ulcers are much more frequently situated on the left than on the right leg. How is this to be accounted for? The partizans of atony said it was because the left leg is naturally weaker than the right. But of a number of ambidexters, or rather of left-footed patients, and consequently where the balance of strength was on the left side, it was still found that ulcers were infinitely more frequent on the left leg than on the right.—Mr. Lisfranc accounts for the circumstance by the pressure of the sigmoid flexure of the colon, (so often distended with indurated fæces,) on the external iliac vein of that side. It is for the same reason that sarcoceles, cirsoceles and hydroceles are more frequent in the left than in the right testicle, or side of the scrotum, the pressure of the sigmoid flexure acting on the spermatic cord, and retarding the return of blood.

"Mr. Lisfranc has some peculiar notions respecting the nature of these ulcerations of the legs. He considers them a kind of gangrenous affection, (une affection gangreneuse, *sui generis.*)—We humbly conceive that this is but a very slight improvement on John Hunter's term—'ulcerative inflammation.' Be this as it may, we all know the difficulty of healing old established ulcers on the lower extremities, and the various means that have been tried in this and other countries for expediting such process. Mr. Lisfranc alludes to the real or supposed danger of closing drains of this kind long established. Many of the best observers in medicine and surgery have testified to the disease

which have supervened on such cures, especially to cerebral and pulmonary congestions; and consequently have recommended the opening of issues or other drains to prevent these accidents. Mr. Lisfranc believes that the danger arises from a bad condition of some of the viscera at the time the ulcer is healed rather than from any disease which could result from the simple incarnation and cicatrization of a discharging sore. With this view, he accurately examines his patients, and when he finds any visceral disorder, he first endeavours to put that out of the way by the proper remedies, and by proper diet. He next corrects the bad state of the ulcer itself, by reducing inflammation and irritation, through the medium of rest, leeches, poultices, and other proper applications. When the sore is thus brought to a condition of being healed, he applies bundles of charpie wetted with solution of chloruret of lime or of soda, and keeps the sore soaked with such solution, graduated in strength to the sensibility or irritability of the parts. By this application he avers, and appeals to the wards of La Pitié for proofs, that he heals these old ulcers in a very short time, varying from five to eighteen or twenty days.

"But when the ulcer is based on a lardaceous or disorganized substratum, this will not succeed. Mr. Lisfranc then tries ablations, by slices, of the disorganized tissue; or, more frequently he makes various incisions, crucial and perpendicular, into the parts. If these do not succeed, ablation of the whole is effected, by the knife or by the cautery, according to the extent and depth of the morbid structure. The actual cautery, in some obstinate cases, is substituted by Mr. Lisfranc, for the potential. When the ulcer is thus brought to a tenable condition, the chloruret is applied, and cicatrization soon follows.

"Those who frequent La Pitié are surprised at the astonishing rapidity with which this able surgeon heals burns and scalds in this way. Forty-eight hours are often sufficient for healing of burns of the first or second degree of intensity. Ulcers healed in this way are said to be infinitely less liable to break out again, than those treated in the common manner. He properly advises the laced stocking or other support, however, after the cure thus performed. And, in cases where there is any tendency to visceral or cerebral disorder, he establishes one or more issues on the upper or lower extremities.

"The chlorurets will not be successful where the ulcer is con-

nected with, or dependent on a varicose state of the veins of the limb. The ligature and section of the saphena vein have been often practised in England and in France; but dreadful accidents have too generally ensued. The sides of the vessel are usually so thickened that they will not collapse when cut; and if air gets in, a rapid and destructive phlebitis is established. Mr. Lisfranc therefore abandoned this practice, and cut out two or more inches of the dilated vessel, trusting to careful compression of the vein above and below the resection, rather than to the ligature. In this manner he has operated a great number of times in La Pitié, and no fatal accident has ever succeeded such practice.—As success, in this operation, depends on the formation of a coagulum in the saphena, it is necessary to select a spot for the operation, where there are no collateral communications. Mr. Lisfranc generally selects the inside of the knee, near the upper extremity of the tibia, for the resection, the branches of communication being all below the joint. If the saphena be varicose up as high as the knee, this state almost always coincides with a chronic inflammation of the sides of the vessel. In such case, Mr. Lisfranc performs the resection on a sound portion of the vessel, on the inside of the thigh, but as low down as possible.

"*Operation.*—The patient is placed horizontally, and if it is the internal saphena, that is to be operated on, the limb is laid, a little bent, on the external side. An assistant compresses the vein by grasping the limb tightly above the part. The surgeon then with a bistoury, makes an incision along the vessel, going only through the skin. When the vein is laid bare and insulated, the surgeon introduces the point of the scissors under the vessel, close to each angle of the wound, and snips the vein across. A considerable quantity of blood is then suffered to escape, if the vessel will bleed, in order to prevent inflammation; and if hæmorrhage will not take place, the patient is bled from the arm. Light, but careful pressure is then made above and below the wound, which is healed, if possible, by the first intention.—Much pressure ought not to be made on the wound itself, for fear of irritation and inflammation. The patient should be kept quiet, and the utmost attention paid to diet and rigimen. In less than thirty hours, the ulcer changes its aspect, from red or violet to pale—the purulent secretion diminishes, and assumes a healthy appearance. Cicatrization sometimes follows, in five, ten, or

fifteen days, but the medium term is from twenty-five to thirty

"Phlebitis may occasionally succeed the operation. The saphena will become tense and painful, feeling like a cord under the finger. If not checked, the inflammation will run upwards, and death may be the consequence. Mr. Lisfranc, in such cases, abandons the inflammation of the saphena below the wound to itself, and covers the track of the vessel above the resection with leeches. When these fall off, a warm poultice with plenty of laudanum is applied. Since he trusted entirely to bleeding and poulticing *above* the wound, he has never lost a single patient.—We shall close this paper with a case in illustration.

"*Case.*—Tellier, aged forty years, entered La Pitié on the 10th of November, having on the inside of the left leg a varicose ulcer, the size of a man's hand. This ulcer had continued for several years, and was accompanied by a multiplicity of varicose veins, and very callous edges. It had resisted all kinds of treatment, and therefore the operation was performed on the tenth of the same month, in the manner already described, an inch and a half of the vessel being removed. The upper extremity of the vein furnished a considerable quantity of blood, and slight compression was employed. 16th.—The ulcer is pale—there is no pain—and the patient appears in a good state. 17th—The upper portion of the vein is painful and hard. Twenty-five leeches were applied, followed by cataplasms, with laudanum. 18th—No amelioration of the phlebitis. Twenty-five leeches again applied. 20th—Some traces of the phlebitis still remained, and another batch of twenty-five leeches were put on the track of the vessel, the cataplasms and anodynes being continued. 21st—The inflammation has completely disappeared. The poultices were still persevered with. The ulcer is red, the suppuration good, cicatrization is commencing. 25th—The patient was so well that food was given him. He was discharged cured, on the 27th January.—*Revue Med. Decembre*, 1826.

"As a proof of the great success which attends Mr. Lisfranc's treatment of ulcers, by means of the chloruret of lime, and resection of varicose veins, it is stated that La Pitié usually contained about fifty of these cases constantly within its wards; whereas there are now very few seen there, so speedily are they cured and discharged."—*Med. Chir. Rev. April*, 1827. *Ibid.*

## ORIGINAL INTELLIGENCE AND NOTICES.

1. RUPTURES AND TRUSSES.—It is well known to the profession, that a great variety of bandages and trusses have at different times been invented, for the management of Ruptures; and it is equally known to the unfortunate persons who have been compelled to wear them, that in general they are inadequate, inconvenient, and sometimes even injurious. Within the last few years, however, Dr. Hull, of New York, has presented to the public a truss, which is acknowledged to be free from most of the objections to which we have referred. We extract from a pamphlet lately published by the patentee, the following exposition of its distinctive properties and merits.

"*First.* The concave internal surface of the rupture pad; from its pressure being greatest at the circumference, tends constantly to approximate the hernial parieties, affording them rest and mechanical support.

"*Secondly.* The combined hinge and pivot mode of connection between the *spring* and *pad*, by means of a tenon and mortice, so constructed as to preserve a double hinge and limited joint, acting in every direction, thereby securing the uniform pressure of the spring on the pad, and sustaining the same nice coaptation of the pad and rupture opening, as well under the varied ordinary desultory muscular actions, as when the body is in a recumbent posture.

"*Thirdly.* The graduating power and fixture of the pad to the spring, rendering, as will be readily perceived, the position of the pad perfectly controllable, even to nameless minuteness. Also resulting from this mechanism, is the advantage of accommodating a large truss to a small person: hence the *facility of supplying, without disappointment, persons at a great distance.*

"*Fourthly.* The Double Inguinal Truss; being simply the addition of another pad, attached to a short elastic metalic plate; this plate with its pad move on the main spring by the same power of adjustment and fixture, as the first pad, the pressure of the pads being graduated at pleasure by an intervening cork wedge." p. 13.

In support of its claims to superiority, the patentee has published the certificates of several distinguished surgeons and physicians of the North. We have had some opportunities of examining the different trusses which he has invented, and of applying them to persons labouring under reducible hernia, and are happy to add our humble testimony, to that already published in their favor.

The Western public are interested in knowing, that a supply of these articles is constantly kept by Dr. Waldo, West Third Street, Cincinnati.

2. AURORA BOREALIS.—This phenomenon, but seldom seen by the people who inhabit the banks of the Ohio, has been twice visible within the past and present month, viz. 28th August and 25th September. In both instances it made its appearance immediately after dark, and continued throughout the early part of the night. At the times when we viewed it, the light was equally diffused along the northern horizon, and rose thirty or forty degrees toward the zenith, simulating, very closely, the dawn of day. A considerable number of clouds were lying apparently at rest in that direction. It is worthy of remark, that in both instances there was a cool breeze, directly from the north, which sprang up at twilight.

It appears by the public prints, that these phenomena were extensively visible in the United States; and as is usual, were much more brilliant further north than at this city.

3. WRITERS AND CORRESPONDENTS.—The sixth number of the Western Medical and Physical Journal, is now about to issue from the press. Our readers must have seen, with a regret equal to our own concern, how small a number of original communications have as yet enriched its pages. The causes of this deficiency are, perhaps, not easily assigned, but we may venture a few conjectures.

1. Physicians and surgeons isolated, and not fully informed with respect to the progress of discovery and improvement in the profession, as those of a newly settled country must necessarily be, are diffident of their own abilities, and hesitate to commit their experience and speculations to the press. Now *we* know that the states of the West and South contain a great number of professional gentlemen, who, in point of talents and a spirit of philosophical inquiry, bear a very different relation to their coadjutors in the East and in Europe, from what they may themselves suppose; and we indulge the hope, that hereafter, they will attach to their own observations a juster estimate, and write more frequently than they have hitherto done.

2. Of those who write, some from habit or predeliction, continue to place their excellent contributions in the same channels of distribution, which have heretofore circulated them among the profession. We should be pleased to see this *catenation* of actions broken in upon.

3. The proprietors of most of the journals of the East, with a zeal in the highest degree commendable, have made pecuniary compensation to their abler correspondents; and thus drawn to themselves many papers, which might, perhaps, have been published elsewhere. We are perfectly sensible of the just and extensive application of the maxim, *ubi irritatio ubi fluxus;* and we hope, at no distant time, to see a centre of fluxion established in the West, by the same efficient means.

4. But perhaps the most operative causes, are the apprehension that our journal will not continue long, and the supposition, that the number of its readers is too small to reward an effort of the pen. Both opinions are quite natural, and therefore excusable; but we are able to say, and,

under the circumstances, feel justifiable in saying it, that if a subscription of more than seven hundred, will give to those who may furnish us with their lucubrations, a body of readers sufficient to satisfy their ambition; and afford them a guarranty that the journal is destined to an existence of more than one *paroxism*, they need not hesitate to favour us with communications. Such a subscription list, without any extraordinary aid from correspondents, can not but inspire the hope, that with such aid as *might* be furnished, the work would assert and maintain, among the old and distinguished journals of the Union, a rank, at least correspondent with its location.

D.